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THE SOCIAL CONTEXT OF MODERN TURKISH NAMES[1]

ROBERT F. SPENCER

THIS PAPER proposes to examine some of the aspects of a social structure changed by increasing industrialization and legislative decree. The people in question are the Oğuz Turks, those of Turkey, the Anatolians who in recent years have been brought closest to the European cultural orbit. The Turkish case is one reflecting a series of revolutionary changes in the ordering and structuring of the nation and society and one in which, for example, the family in town and settled village begins to take on an entirely new flavor. The change is not yet complete, as recent internal events in Turkey might attest, but it may be suggested, in keeping with the facts now known about process in peasant societies, that patterns of industrialization and nationalism require marked modification in social structure. As data on Turkey were reviewed, it was discovered that an interesting index of change in social organization lay in the character of names, both given and surnames, especially the latter. Through names one is able to obtain some impression of the nature of the traditional unit of Turkish social structure and at the same time to note how the concepts surrounding the interrelations of persons in society are being modified.

THE NAME LAW, 1934-36

As a step toward deliberate Westernization, along with a host of politically directed social reforms—such as the adoption of European legal systems, changes

1 The materials on which this paper is based were obtained on a research visit to Turkey in 1954 and through interviews with Turks resident in the United States. The thanks of the writer are due the Graduate School, University of Minnesota, for the 1957 award of a Faculty Summer Research Appointment which permitted a review of the Turkish data. Thanks for their time and interest go especially to Mr Yüksel Selçükoğlu of Konya and to Prof Remzi Öncül of Ankara.

in language and writing, or the rigorous separation of church and state—the Kemalist Grand National Assembly of the Turkish Republic enacted legislation requiring every citizen of the Fatherland to register a family name. The law was passed on June 21, 1934, and was to become effective and enforced by January 1, 1935.[2] Mustafa Kemal Pasha, the Ghāzī, founder of the Republic and its benevolent dictator, who almost single-handed had engineered the far-reaching social changes for his people, requested of his Grand National Assembly that its members confer a surname on him. He had entered military school as the impoverished Mustafa, son of Ali Riza. While there, a teacher is said to have conferred on him, a second Arabic name, Kemal, as a reward for scholarly excellence. Pasha, of course, refers to his military rank under the Ottoman sultans, while the honorary Ghāzī, an Arabic nicknaming title meaning "conqueror," stemmed from his brilliant defense of Gallipoli in World War I and was lent added force by his defeat of the Greeks in 1923. Like most Turks of the day—at least those who could claim no elite status or noble affiliations—he lacked any eponymic indication of family or lineage. Hence, on November 24, 1934, the Turkish legislators decreed for him the name Atatürk, "Father Turk," or popularly, "Father of the Turks." His family and descendants were to receive the name Atadan, "Of the father." The dictator thus enters the pages of history as Mustafa Kemal Atatürk.[3]

At the same time, Atatürk conferred on his chief lieutenant, İsmet Pasha, the hero of the battle at Inönü in the war of liberation against the Greeks, the surname İnönü. The new social elite of the republic were quick to follow suit and a wild scramble for appropriate surnames took place among legislators, army officers, and bureaucrats. Çelal Bey, an associate of the earliest years of the Kemalist party, bearing an Arabic given name meaning "illustrious," simply took the Turkish equivalent as his surname, emerging as Çelal Bayar. Meanwhile Adnan Bey, another pioneer Kemalist, although like Bayar now on the opposite side of the political fence from the party of Atatürk and at this writing in political disgrace, selected his family name from the river in western Anatolia which the Greeks called Meander, Turkicized as Menderes. But while the movement for surnames had its initial success among the civil servants and urban groups, the rural population was considerably less amenable to the idea of assuming family names. Not only was there failure to comprehend the implications of the law but there was clearly resistance to the idea itself. As may be noted below, the segmented lineage system is not accustomed to operate in terms of surnames of an essentially European type. No little confusion followed. The result was the extension of the dead-

2 Lewis, 1955, pp. 108-109; Spencer, 1958, pp. 645-646, and others.

3 Cf. Allen, 1935; Duda, 1948; Webster, 1939, and others.

line for name registration to January, 1936, and then again, to January, 1937. By this time, there appears to have been general compliance with the law.

Governmental decrees requiring a citizenry to adopt surnames have by no means been unusual. The Jews of eastern Europe of the eighteenth century offer a case in point, although here was legislation directed to a minority. More recently, both the Japanese and the Thai were obliged by legislative edict to assume surnames for purposes of registration, but it may be remembered that the concept is by no means a universal one. The various Arab states, those adjacent to Turkey, for example, although they may permit the designation of lineages by name, tend to prefer the traditional Muslim practice of teknonymy and nicknaming.[4] It can be understood readily that a government, striving for Westernized status in a community of nations, should find it convenient to register its citizens, not only for purposes of taxation and business, but also for military conscription. Although some states, including our own, have refined the techniques of classification by issuing identity numbers, these have not as yet been called on to serve in lieu of family name. In the Turkish case, the primary concern, apart from an eagerness to emulate Western societies, was facility of taxation and military conscription.

A somewhat unusual method of effecting social change was followed in Turkey in the fifteen years of Atatürk's power. It was the leader himself who developed the pattern. Because predominantly rural Turkey has always suffered from some problems of adequate communication, new edicts, publicized through every available means—the press, village leaders, local school teachers—still required some focus in order to command attention.[5] Atatürk, in keeping with a pattern already established, took a public stand by requesting a surname from his legislators. He had already shown his willingness to conform to his own laws: for example, he toured the countryside in Western dress when the so-called "Hat Law," which outlawed the fez and national costumes in favor of European clothing, was passed in 1925. Similarly, when the Latin alphabet was officially substituted for the Arabic in 1928, it was Atatürk again who personally gave wide demonstrations of the new script. In assuming a surname, he effectively pointed the way for the Turkish masses. The great popularity of Atatürk, combined with the period of unrest after World War I, allowed his becoming a potent instrument in effecting revolutionary social change.

4 Cf. Margoliouth, 1909.

5 Today, agricultural extension services have been employed for such purposes, as have the various organizations which were gradually developed to kindle the spark of Turkish nationalism and "culture" (cf. Birge, 1949; Webster, 1939; and others). The radio is now more effectively used.

NAMES OF THE OTTOMAN TURKS

In Turkey, the assumption of surnames was at base a linguistic problem. It is to be remembered that the Turks are of Central Asiatic origin and that their language, classed generally as Ural-Altaic, has no relation either to the Indo-European or to the Semitic to which Arabic belongs. But because the Turks of Anatolia and the Near East generally—first the Seljuks, then the Ottomans—had become converted to Islam, had taken over the Caliphate, and had literally carried the torch of mediaeval Arab civilization down to modern times, their language was heavily overlaid with an Arabic and also with a Persian lexicon. As Muslims, they were called to prayer and recited the Qur'ān in Arabic. In both Persian and Arabic they found their poetic models and in theology, philosophy, and science they came to lean exclusively on Arabic and the Arab tradition. It is scarcely surprising that language reform, the return to a "pure" Turkish, should become a pillar of the nationalistic movements of the past half century. The attempt has been ever to rediscover a Turkish free of Arabic and Persian loans. But religion and its associated traditions had their effects on the patterns of naming.

The system of names employed by the Ottoman Turks was in essence Arab and Muslim. Actually, in spite of an increasing tendency to employ Turkish names —those stemming from a Central Asiatic heritage—the general system is still in existence, standing side by side with the Europeanized pattern fostered by Atatürk. The traditional patterns, it is said, are beginning to be lost only in the larger urban centers. The system involved one or two given names, these most frequently being followed by a teknonym or nicknaming indicator. The given name is still generally called the *göbekadı,* the umbilical name. This is the name given when the umbilical cord is cut by the midwife, usually in the presence of a male relative, father or grandfather, who formally pronounces the name. In western Anatolia the maternal grandmother is often given the right to select the *göbekadı;* generally, family tradition plays a part. In effect, the *göbekadı* is a name in religion. It signifies acceptance of the new individual into family and lineage. The Qur'ān is the usual source of such names, although Sunnite traditions are also important. The names of the early Caliphs and those of the traditional members of the companion train of the Prophet appear in this connection. Hence one encounters such names as Muḥammad, turkicized as Mehmet, Uthmān as Osman, Ḥasan, Ali, and such partiarchal names as İbrahim or Suleyman. Occasional non-Arab names appear, such as Orhan, a name in the Ottoman succession.

As is still true, persons were not generally called by the *göbedaki.* As both a religious name and one reflecting the rite of passage of birth, this tended to be put

aside in favor of another given name, one frequently Quranic and Arabic. Here there was greater latitude, however, since a nickname, a teknonym, a school name, a circumcision name, etc. might be employed. On this level, names could change even several times in the lifetime of the individual. Female names tended to remain somewhat more fixed.

Traditional Turkish usage came to follow the Arabic in the employment of teknonymy. But this was somewhat more limited than in the Arabic practice, being extended only to the junior relationship. Turkish allows several ways of expressing teknonymy. The most common is name in association with the nouns *oğul* and *kız*. Hence, *oğlu* "his son," i.e. "son of," and *kızı* "his daughter," were usual in Ottoman times. The Persian *zade* "issue" tended to be more frequent among the upper social classes. An example of this type of naming may again be seen in the usual reference to Atatürk, the one, at least, employed before the surname was conferred. He was known as Ali Riza Bey zade (oğlu) Mustafa Kemal, i.e. as Mustafa Kemal, son of Ali Riza. İbrahim Naci oğlu Kemal refers to Kemal, the son of İbrahim Naci. Actually, considerable variation took place at this level, especially among upper and educated classes, given name followed by father's name being a common device. Agâh Kemal thus refers to Agâh, son of Kemal. The latter was a common choice by physicians.

Like the Arabs, the Turks came to employ nicknames for purposes of exactness. These might relate to place of origin, occupation, or to some distinguishing physical characteristic. Adanalı Mehmed zade Ali would thus distinguish Ali, son of Mehmet of the town of Adana. Similarly, Demirci Müzaffer refers to the Müzaffer who is a smith, or Topal Kâmil to Kâmil the lame. Pre-Kemalist Turkey made extensive use of personal titles. These, tied into bureaucracy, tended to distinguish various persons in terms of status. On the rural level, where mobility was rare and close interpersonal relationships were the rule, it may be understood that naming practices created no special problems. The individual could be located with ease in his village and among his kindred. Nicknames, should the need arise, could readily be coined, a situation which has by no means been dropped.

Personal names are paralleled by lineage names. This is of interest since some indication is provided by the name of the nature and structure of social units among the Turks. The lineage name was not necessarily universal or such names could be subject to modification over time. But the importance of the lineage as a named group cannot be denied even today and the associated names have in many instances been employed as surnames in the modern sense. The parallel development among the Arabs is that of subtribal or extended lineage names, a

pattern which is encountered with great frequency in the world of Islam. Among the Turks, as among the Arabs, there were lineage names of locality and nickname, those in some measure related to titular rank, all generally reflective of extended kinship. In Arabic, the term for the lineage name is *laqab*, the connotation being that of nickname, the reference being toward the agnatic unit. Turkish borrows *lâkap*, according it the general meaning of nickname referring to a lineage.

Some useful suggestions have been made over the past decade with respect to the structure of unilineally ordered descent groups. Professor Meyer Fortes, following some suggestions which have gradually matured since Lowie's 1921 identification of unilineal descent with property rights and residence, posits that such types of organization apply neither to small local groupings with limited property rights and concepts nor yet to contemporary industrialized societies.[6] Fortes' evidence points to a kind of middle ground, to organizations reflecting larger populations and some pre-capitalistic production and property concentration, as permitting the development of unilineal descent groups and their maintenance. This point, especially as it relates to social structure in much of central Asia and adjacent Europe, is amply demonstrated by Dr Elizabeth E. Bacon in her comparative application of the Mongol concept *Obok* (1958). The unilineal descent type present in Asia, reflecting lineage segmentation and a high degree of flexibility, is not the orthodox clan but a free-wheeling system in which both mobility and patterns of expansion and contraction can emerge. *Obok* structure, as Bacon defines it, and as segmentary lineage structures of this peculiar type have been described by Murphy and Kasdan, Barth, and others, clearly applies to the Anatolian Turks.[7]

The traditional social system of Turkey was one vested in livestock and in the essentially marginal yet precisely definable ecology of pastoral nomadism. Leaving aside the court and the traditional pomp associated with the sultans, the Anatolian peasant based his organization on segmented lineages founded in territory and the central pattern of transhumance. Some economic shifts have occurred, it is true, especially in areas where settled agriculture could occur, but the effect, at least throughout most of what it known of Turkish history, was not such as to disrupt the traditional system of tribe and lineage, nor indeed, is the process of disruption complete today.[8] If names of the *lâkap* type, suggesting as they do parallels to the Bedouin organization of antiquity, are still employed, doing occasional service as modern family names, the question may be raised as to how the name operates to define the social unit.

6 Fortes, 1953, p. 24.
7 Murphy and Kasdan, 1959; Barth, 1953.
8 Cf. Stirling, 1960.

The lineage names parallel those of several other Muslim peoples, there being in the traditional nomadic background of the Turks a virtual convergence with the Bedouin social system. The names themselves suggest patterns of nicknaming, some are place names, still others are heroic eponyms. Thus in the Konya area there is encountered Karnıbüyük, "Big Belly," a name taken over today as a surname. Kılıçlar, "Swords," İbrahim'in Kılıçları, "Swords of İbrahim," Haci Hüseyinler, "Those of the Hajji (Pilgrim) Hüseyin," are common examples. Personal reference to lineage members effects varying combinations of personal name with lineage name. One thus encounters Ağagillerin Mehmet, "Mehmet of the Ağagil," or such an example as Hocaların Hakkının kardeşi Hasan, "Hasan, brother (kardeş) of Hakkı of those of the hoca (priest)."[9]

The names noted here applied locally. The Ottoman state, with its elaborate system of titles, could ignore the local element of social organization. It is significant that these *lâḳap* names were not surnames in any sense but a device developed, as among the Arabs, to define the lineage from the point of view of the nonmember. Traditional in the Middle East is the emphasis on male descent and genealogy. Yet one is so often intrigued by the elaboration of genealogical system as to forget that this represents a structural ideal, not a precise social reality. Like the Arabs, the Turks could reckon kinship widely and remotely, but like the Arabs again, the functioning unit of kinship lies in a coresident, mutually coöperative group. Common territory and mutual aid in defense and feud become features promoting cohesion. The end result is an ego-structured system, the point being that one's own affiliations differ from those of ascending and descending generations. Degree of relationship, both lineally and in the collateral range, becomes the factor determining allegiance. There is the gradual segmentation of agnatically related groups and a complete separation within them over periods of time. Hence it is to a local functioning agnate group that the *lâḳap* name applies.[10]

It is worth noting that the Turks, like the Arabs, came to stress patrilateral parallel cousin marriage. Although preferred, this system of mating, even among rural groups, has tended to fall gradually into disuse. Unquestionably, the increase of personal mobility and some occupational differentiation brings about modification, although Stirling notes of the lineages about which he has specific information that only about ten percent of marriages were with the father's father's brother's son's daughter or a closer parallel cousin.[11] The effect of such marriages would of course provide a basis of integration on the level of the local segment

9 Cf. Tietze, 1958, p. 187.
10 Cf. Stirling, 1960, p. 61.
11 *Idem*, p. 62.

but, as Murphy and Kasdan point out, would be divisive for the total society.[12] The parallel cousin marriage does aid in explaining the factors of cohesion in the lineage unit. They function in a tightly closed manner up to the point of the formation of a new segment. This, developing its own patterns of cohesion, a new name, retains its associations only through the system of genealogical reckoning but not in practical terms.

The system of naming, following the Ottoman pattern, together with the system of segmented lineages, has not materially changed today. As erstwhile pastoral nomads, possessing male lineages, the Turks could adapt themselves quite readily to the social patterns of Islam. The Name Law of the 1930's adds something to which the Turks had not been accustomed. Lineage name now stands against family name, with the result that some marked changes take place in the composition and structure of the traditional system. Whether the Turks can adapt themselves to the bilateral nucleated family system of the West and not undergo a marked experience of disorganization is a question of interest.

MODERN TURKISH NAMES

With the Westernizing period of unrest characterizing the later nineteenth and early twentieth centuries, some concerted efforts were made to develop a Turkish nationalism. Pan-Turanism, a union of Turks everywhere, was a watchword of the "Young Turks," the group which held political power before and during World War I. Pan-Turanism led in turn to language reform. As the Turks conceived it, such reform lay in ridding the language of its overlay of Arabic and Persian loans. Although tried for a time, the nationalist press taking a lead, the result was awkward, the resurrection of "pure" Turkish words making for virtual lack of comprehension. At the time, however, many town, village, and street names were changed from Arabic and Persian to Turkish, the records of the Asiatic Turks, both those of the ancient past and of the Turkish minorities in the U.S.S.R., being carefully culled for Turkisms. This burst of iconoclasm against the Muslim tradition had its effects in the reform of language and writing dictated by Atatürk and it was of course important in respect to the choice of surnames made when the law demanded it.

Although the custom of the umbilical name *(göbekadı)* is still widely followed, the Turks of the past three decades have generally chosen to drop the Quranic or Ottoman Turkish name and to employ for social purposes a second name of "pure" Turkish origin. Although bearing a *göbekadı* of Ali, Hasan, Mustafa, or Mehmet, the individual prefers to be called by Arslan, Orhan, Yüksel, Çetin, Özer, Turhan,

12 Murphy and Kasdan, 1959, p. 26.

Ayhan, Aymut, Yalçın, or even Atilla. The linguistic association with the Mongols and the nationalist pride in the historic past contribute even Kubilay and Timur. And generally, the same factors operated in respect to the choice of family name.

The problem which faced the Turks over the choice of surnames is an interesting one. The individual was required by law to ask himself which name might best be applied to himself and his descendants. From the point of view of the government there was obviously no preference as to the type of name chosen. All that was asked was that the surname be registered for the taxpayer and landholder, for the army conscript, or for the villager listed in his home community. The surnames did not even have to be Turkish. The ethnic minorities, of which there are so many in Turkey, could register non-Turkish names and it is thus not surprising to find Greek, Armenian, or Sephardic Jewish patronyms. Many Armenians, in fact, did assume Turkish surnames. But the Turkish-speaking Turk, who had previously resolved his problem of naming in quite a different way, was confronted with a dilemma of choice.

As a result, there is a vast number of surnames in Turkey today. A check of the directory of any Turkish city—the telephone directory, for example—attests this. The telephone book of the city of Istanbul began listing by surname only in 1950.[13] Prior to this, while it gave names of businesses and foreign surnames, Turks were designated by given name. The finder was required to know that Abdullah Yüksel resided in Beyoğlu and was not the Abdullah Yüksel who lived in Moda, Üsküdar, or Yeşilköy. Yüksel, in this instance, would tend to be a teknonym, the Abdullah in question being located under the letter 'A.' The problem is now resolved with the listing by surname, but again the telephone directory shows the great variety of Turkish surnames. It appears that once the name edict was passed, people sought as distinctive kinds of names as possible.

Despite the wide range of names, however, the selections fall in certain definite categories. In the main, these are six: occupational names, place names, heroic and tribal eponyms, names of objects, *lâkap* names, and finally, a general category which might be viewed as names considered as attractive or euphonic. The great range prevents any exhaustive listing, but it may be of interest to consider some examples of each type.

1. *Names relating to occupations:* These, as surnames, were adopted mainly by rural people, those claiming or pretending no higher status based on elaboration of genealogical reckoning. One finds, for example, Demirci "smith," Arabacı "carter," Çiftçi "farmer," Bakırcı "coppersmith," Taşçı "mason," Çivici "nail

13 Lewis, 1955, pp. 108-109.

maker," Sandalcı "rower, boatman," Halıcı "rug weaver," Körükçü "phaeton driver." In these cases, the presence of the agentive suffix follows a normal morphophonemic rule.[14] A variation appears in such a name as Camdeviren "one cutting pines." A further extension of the occupational name is formed with the patronymic *-oğlu* "son of," as in Sarracoğlu, "son of a saddler," or, reflecting religious office, Müftüoğlu "son of a mufti," and Hacioğlu "son of a pilgrim."

2. *Surnames derived from place names:* Any village or town name, not omitting districts or even nations, when suffixed with *-li (ı, ü, u)*, indicates individual and group provenience. This was a favorite device for naming lineages. These types were taken over widely as surnames. Thus, Konyalı "from Konya," Ankaralı "from Ankara," Kayserili "of Kayseri," and many more are possible. In line with this, one encounters Köylü "villager," Şehirli "city-dweller," Denizli "of the sea," or Dağlı "mountaineer." A not uncommon choice was Ege "Aegean," while Ülke "country," Dağ "mountain," and Deniz "sea" were fairly popular. River names tended to be fairly common selections, such as Menderes, Seyhan, Orhon, or Çoruh. The name Gürtunca offers a slight variation, derived from the river Tunca, *gür* meaning "swollen, turgid."

3. *Heroic and tribal eponyms:* In line with the concepts of nationalism and the Kemalist goal of "Turkey for the Turks," it seemed fitting to many that they choose names suggestive of patriotic loyalty. The Turkish heroes of the remote past as well as those of the great days of the Seljuks and Ottomans offered a wide variety of possibilities. There is, for example, the eminent Turkish sociologist, the foremost protagonist and rationalist for modern Turkish nationalism, Mehmet Ziya, who took as his *nom de plume* Gökalp, the "blue hero," a nickname appearing in the genealogies of the Ottoman house.[15] Although Ziya Gökalp died in 1924, his self-chosen and patriotic sobriquet is commonly regarded as a surname today. From the Seljuk dynasty come the many modern surnames of Selçük, Selçükoğlu, Özselçük (the latter compounded with the noun öz "essence, purity"), while Ottoman, Osman in Turkish (Arabic 'Uthman), gave Osmanlı, Osmanoğlu, Karaosman "black Osman," and Karaosmanoğlu. The khanates of Asiatic tradition provided a good source for surnames, appearing with the suffix *-han* "khan," as in Karahan, Ayhan, etc., while the names of individual heroes, such as Yıldırım, Beyazit, Ertugrul, Erdoğan, Yavuz, Teoman, were eagerly chosen. The same may be said of names with historic connections in terms of tribe and area, such as Oğuz,

14 Alveolar voiced or voiceless affricate, ç or c (tsh or dj) with high front or back rounded or unrounded vowel (in line with vowel harmony).

15 Spencer, 1958, p. 648.

Altaylar, Kurultay, or Ozansoy. Clearly, there was a sense of status attached to the selection of names of this type. They tended to be chosen by Turks who were both literate and urban, those with some knowledge of ethnic history.

4. *Object Names:* These surnames appear widely and reflect a wide realm of selection. Some, like the heroic names, have status implications, such as Yalman "swordpoint," Bozkurt "grey wolf," or Arslan "lion." The latter two are also identifiable as symbolic in Turkish history, Atatürk himself having borne the name Bozkurt for a time. Similar associations may be seen in some others, such as Çakmak "flint," Taşer "unyielding stone; man of stone," Duman "smoke," Demirtaş "iron-stone," but others chosen wholly at random, seem to lack nobler or heroic pretensions. One finds Baş "head," El "hand," Buğday "wheat," Ay "moon," Güneş "sun," and so on through a host of similar selections. It is not surprising to find a dairyman taking the name Özsüt "pure milk" as a kind of advertisement.[16] As with the occupational names, those especially concerned with a product or object of manufacture might choose it as a surname. The Turks, inordinately fond and proud of the excellence of their drinking waters, find nothing unusual in the choice of Su "water" as a surname. Another not unusual choice in this category was that of numbers, both cardinal and ordinal. Üç "three," Dört "four," and so on through the digital numbers are common, as are also Birinci "first," İkinci "second," Üçüncü "third," etc. Names of animals were also chosen by some. Arslan (Aslan), referring both to the lion and to the hero of the same name, Alp Arslan, is wholly acceptable. But some others have not proved to be so. The fact that some Turks chose animal names which were regarded as foolish or derogatory might indicate some indifference to the law or to some impatience on the part of the registering official. Except for the very noble ones, animal names are held in derision, becoming today virtually tabooed, so much so, in fact, that people holding them not infrequently go to law to change them. A few took Köpek "dog," a poor choice when Muslim attitudes toward dogs are remembered, but Keçi "goat," Deve "camel," Koyun "sheep," Karga "crow," Eşek "donkey" have all appeared and in most instances, especially among townspeople, have been legally changed. The same is true of such descriptive names relating to the qualities of these animals, such as İnat "stubborness."

5. *Lâkap Names:* The *lâkap* survives both as a lineage name and as a surname. In the main, names associated with Ottoman nobility were dropped. Those gentry families who stressed genealogy and lineage might, however, retain their *lâkap*

16 Lewis, 1955, p. 109.

as a surname. The Karnıbüyük lineage of Konya offers a case in point. There is an illustration of the kind of fragmentation of a lineage which has been speeded up since the passage of the surname law but which also reflects the traditional Turkish social system. The Silleli "Those of Sille" (n. pr. loc.) had been holders of a *lâkap* known from Ottoman times. The name persisted as a surname but one individual, recognized head of a branch of the patrilineage, changed his name to Seli. Known as Silleli Hakkı'nın oğlu Kemal, he claimed the name Seli Kemal, thereby breaking off from the lineage and founding in effect a new segment. A general tendency was to abbreviate the *lâkap*. Mehmet'in Yeğenleri, for example, became simply Yeğenler, i.e. "Mehmet's Nephews" being known simply as "Nephews." Because the choice of surname was an individual and not a group decision, it follows that considerable variety, even in the erstwhile lineage names, should occur.

6. *Euphonic Names:* These must be viewed as making up a general or miscellaneous category reflecting names chosen merely for their poetic or otherwise attractive qualities. In some instances, the meaning of the word chosen as name dictated the choice, in others, it was merely the sound. Thus, Akyavaş is meaningless but, as some agree, "it sounds well." Here, one may find Bozdağ "grey mountain," Yücel "sublime," Yüçebaş "high head," Çağlar "rushing stream," Aykaş "waning moon," Tunç "bronze," Ataker "courageous," Yener "victorious," Onan "prosperous," Deligönül "madheart, i.e. in love," and many more of the same general kind. Coined for purposes of surnaming, and falling into the same category, are such nouns as Gülen "the laugher," or Sevilen "beloved," with numerous variations.

The surnames listed above are, as may be inferred, no more than a most superficial example. Turkish surnames are legion but, as a result of the name law, they begin to become a reality to the new generations of Turks. In them, the Turks of today have found yet another means by which their society is made to conform to the standards and patterns of the nations of Europe and the West. Although it may be said that to register people by means of surnames is a fairly simple matter, this fails to take into account the relation between name, or its absence, and social structure. To change the naming conventions is in some measure to tamper with the cultural fabric. It cannot of course be said that the matter of names was the exclusive cause of certain realignments in the society, but social consequences there clearly were. If nothing else, there appears a tendency to readjust the nature of kinship units. Where formerly the extensions of kinship terminologies to related individuals served to define the lineage segment, this being, as has been seen, an

essentially practical solution to the problem of segmental definition, the process of lineage proliferation has tended to become accelerated by the presence of the surname. Further, the new unit then tends to become more fixed. Fragmentation occurred rapidly because of the choice of different surnames by members of the same lineage. In theory, the family or household head was expected to make the choice for all members of the group. But this was not always the case. Still predominantly rural, the Turks are confronted with the extensive movements into cities and towns. Forced into the individualized residence patterns associated with town and city life, the modern Turks tend toward the formation of small nuclear families each with a distinctive surname. The end result is a massive kind of social change in which the name problem is only one aspect.[17]

It can readily be seen, however, that if of the brothers Remzi and Suleyman, Remzi has chosen Öcal as his surname, while Suleyman has taken Gedik, it is not long before the associations of different family names begins to have a divisive effect. The pattern is not unusual and may have taken place under the lineage system should a brother have moved away to begin the formation of a new segment. However, there is balancing this and reflective of societal change the fact that the descendants of Remzi and Suleyman are now cast into a different mold and there is the gradual loss of the exact phrasings of traditional Turkish kinship.

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17 Cf. Lerner et al., 1958.

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COATLAN MIXE KINSHIP

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IT HAS RECENTLY been suggested[1] that in northeastern Oaxaca-southwestern Vera Cruz, Mexico, the kinship systems of several groups display an unusual emphasis on relative age as a criterion for terminology differentiation. Although there is a stratification of collateral relatives, grandparents, and siblings into three distinct levels in these systems which is in a way reminiscent of so-called "Hawaiian type" systems, the most important feature of this stratification is age relative to Ego. This article, then,[2] attempts to further document this situation by describing the kinship system of another one of these groups, one which carries this basic emphasis of age relative to Ego even farther than does the Palantla Chinantec system described[3] (by including the affinal nomenclature): that of the Coatlán Mixe.[4]

THE CONSANGUINEAL TERMINOLOGY

There are twelve consanguineal terms: six are denotative; six are classificatory. To facilitate following the description of the terms, the denotative terms are given first in Table 1, followed by the classificatory terms.

The denotative terms specify lineal relatives of three generations other than that of Ego: parents, children, and grandchildren, distinguishing sex in all cases. One additional alternate term, ʔuŋ *child*, does not distinguish sex. This term is also extended to include offspring of animals and young plants.

Two other terms, cohkmaŋ and cohknï·hš, which respectively designate male and female children of Ego's siblings, comprise a sub-system recognized by a small segment of the speakers.

A step-relationship is indicated by prefixing ko- to the terms te·hyk, tah, maŋ, and nï·hš for *step-father, step-mother, step-son,* and *step-daughter* respectively. Another more preferred term is also used for *step-mother:* koʔu.

1 William R. Merrifield, *Chinantec Kinship in Palantla, Oaxaca, Mexico* (American Anthropologist, vol. 62, pp. 875-881, 1959).

2 The data here presented were gathered by Searle Hoogshagen during residence in Coatlán from 1951-60 under the auspices of the Summer Institute of Linguistics. The writers are indebted to Joseph E. Grimes, Floyd G. Lounsbury, and Kimball Romney who have seen these materials in earlier darft and have given valuable suggestions.

3 Merrifield, *op. cit.*

4 Coatlán is situated in the eastern half of the Mixe region in the State of Oaxaca, Mexico. The community numbers approximately 800 persons including the inhabitants of the nearby town of San José Paraíso which has been established by members of the Coatlán community.

TABLE 1

Consanguineal kinship terminology

Relationship	*Mixe term*
father	te·hyk
mother	tah
son	maŋ
daughter	nï·hš
grandson	ʔapmaŋ
granddaughter	ʔoknï·hš
grandfather	tatpi·ht
grandmother	nanpi·ht
older male relative (m. sp.)	ʔahč
older male relative (w. sp.)	ʔay
older female relative	cï·ʔ
younger relative	ʔuč

The classificatory terms utilize the criterion of age relative to Ego, obscuring entirely that of generation. If older than Ego, the sex of the person referred to is also indicated, and in two instances sex of Ego is distinguished.

There are three categories of relatives as defined by these six classificatory terms. In the first category, grandparents are classified together with all collateral relatives of the same relative age as grandparents. Sex is distinguished by the two terms *grandfather* and *grandmother*. In the second category, siblings and collateral relatives slightly older than Ego and those of the same relative age as parents are classified together under three terms: *older male relative of a man, older male relative of a woman,* and *older female relative* (Ego of either sex). The third category groups siblings and collateral relatives the same age as or younger than Ego under a single term, *younger relative*.

It should be understood that these categories indicate generation-age-levels in reference to Ego, and not generations in the ordinary sense. FaBr, younger than Ego, is grouped with younger siblings of Ego; if older than Ego, he is grouped with older siblings of Ego.

It is possible to further define a relationship as being that of a sibling by the addition of the morpheme ke·ʔš as in cï·ʔ ke·ʔš *older sister*.

Figure 1 is patterned after the diagram devised for Palantla Chinantec.[5] The horizontal lines across the diagram divide Ego's relatives into three categories according to age relative to him.

5 Merrifield, *op. cit.*, p. 876.

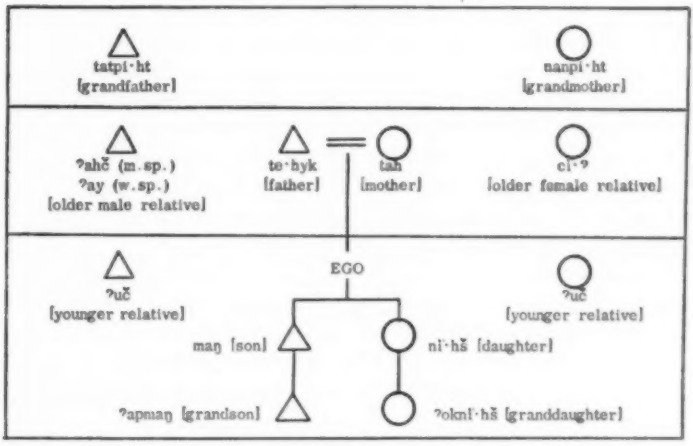

FIG. 1. Consanguineal terms.

AFFINAL TERMINOLOGY

Relative age and sex of Ego are both important factors in differentiation of affinal terms. The terms are presented in Table 2.

TABLE 2

Affinal kinship terminology

Relationship	*Mixe term*
parent-in-law (m. sp.)	mï·?t
mother-in-law (w. sp.)	šeyk
father-in-law (w. sp.)	cu??ap
son-in-law	mï·?t
daughter-in-law	šeyk
brother-in-law (m. sp.)	hïy
brother-in-law (w. sp.)	kayp
sister-in-law (m. sp.)	kayp
sister-in-law (w. sp.)	?ohy
husband	ña·?y
wife	to·?yšïhk
co-father	ya·?p
co-mother	yo·?k

The tags "parent-in-law," "brother-in-law," etc., are extremely inadequate and must be redefined for our use here. Parent-in-law, as well as father-in-law and mother-in-law, are defined to include any consanguineal relative of Ego's spouse (lineal or collateral) of the same relative age as parents. Brother-in-law and sister-in-law are here defined to include any consanguineal relative of Ego's spouse (sibling or collateral relative) or the spouse of Ego's sibling or collateral relative, who is of the same relative age as Ego. There is no term for consanguineal relatives of Ego's spouse who are several years younger than Ego. Co-father and co-mother indicate the parents of one's child's spouse.

There is conflicting evidence for the use of the term šeyk *mother-in-law* (w. sp.) and cu??ap *father-in-law* (w. sp.). It seems that in the Coatlán dialect, šeyk previously paralleled the distribution of mï·?t *parent-in-law* (m. sp.) in not distinguishing sex of the relative referred to, but has since been delimited by the occurrence of cu??ap, a term which occurs in other dialects and which presumably has been

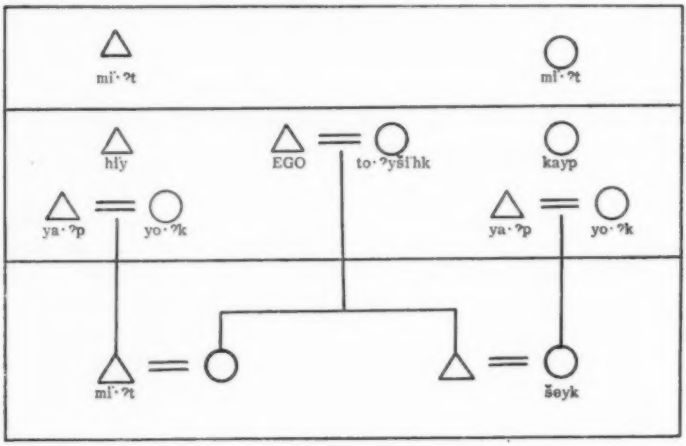

Fig. 2. Affinal terms—male ego.

borrowed from them. Note that with the exception of this presumably borrowed term and the terms for husband and wife, all other affinal terms are reciprocal. Figures 2 and 3 illustrate the affinal kinship terminology.

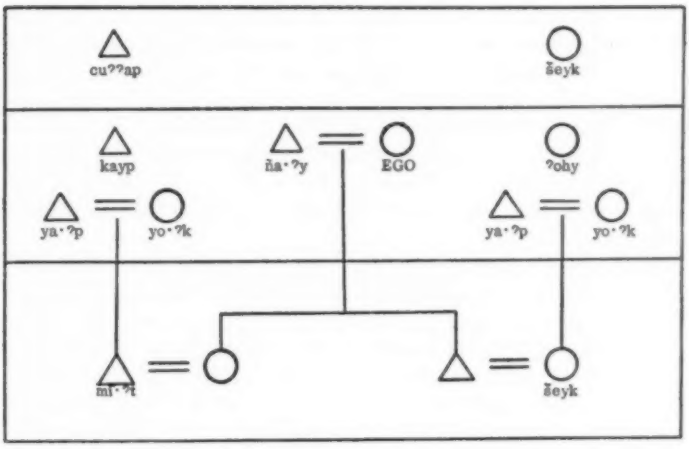

FIG. 3. Affinal terms—female ego.

GOD-RELATIVES

There are six terms which have reference to relationships formed in the act of water baptism. These are listed in Table 3.

TABLE 3

God-relative terminology

Relationship	*Mixe term*
godfather	mïšuŋte·hyk
godmother	mïšuŋtah
godson	mïšuŋmaŋ
goddaughter	mïšuŋnï·hš
co-father	ya·?p
co-mother	yo·?k

The terms for co-father and co-mother are extended from the affinal terminology to include the baptismal sponsors of a person's children. The remaining four terms are compounds using consanguineal terms and mïšuŋ *baby*.

VOCATIVE TERMINOLOGY

A knowledge of the structure of the Mixe community is basic to the discussion of vocative terminology. Beals[6] illustrates that the Mixe town is an "entity" into which outsiders find it difficult to enter. In Coatlán there is a well defined distinction between "legitimate" members of the town who have consanguineal ties in the town which go back beyond memory and those who have arrived more recently. As suggested by Beals[7] there probably existed at one time some kind of kinship group "approaching a localized clan unit" which has now become identified with the town.

Vocative terms are used to address all "legitimate" adult members of the community and are chosen according to the relationship of that person to the speaker and relative age in order to convey the proper respect due the person addressed.

On encountering another member of the community, it is customary for a younger person to address an older person with a respect term, viz. a term which indicates the person's age relative to that of the speaker. All vocative terms occur in a standard greeting form: cïkeh tat, cïkeh ya·ʔp, etc. The person thus addressed responds with a respect greeting: cïkeh tat *or* cïkeh nan.

The grandfather-grandmother terms are used to address all legitimate members of the community of the "extremely old" age group, whether related or not by consanguineal or affinal ties. Persons of the same relative age address one another by name or dispense with a salutation. The vocative terms appear in Table 4.

TABLE 4

Vocative terminology

Relationship	*Mixe term*
grandfather	tatpi·ht
grandmother	nanpi·ht
older male relative	tat
older female relative	nan
older unrelated male	tatpiʔk
older unrelated female	nango·hp
co-father	ya·ʔp
co-mother	yo·ʔk

The use of these vocative terms is limited to the so-called legitimate members of the community. There are, however, two terms used to address persons to whom

6 Ralph L. Beals, *Ethnology of the Western Mixe* (University of California Publications in American Archaeology and Ethnology, vol. 42, no. 1, 1945), p. 17.

7 *Idem*, p. 38.

no particular respect is accorded: mïyš is used when addressing a male and kiyš when addressing a female. These terms are often used by an older person when addressing a younger person and are used widely in the Mixe region.

DISCUSSION

The criterion of age relative to Ego carries over as a very important feature of both consanguineal and affinal referential terminology and also of the vocative terminology. This emphasis reflects the important role age plays in the life of the Mixe community.

Beals[8] points out that there is among the Mixe a strong element of competition, and a desire to gain prestige and influence. This prestige is gained as one advances from "grade to grade" in the "rigid line of succession" to offices of the community government. The facts seem to indicate, in the political-religious organization of Coatlán and of neighboring communities, Chinantec and Mixe, that it is more than a coincidence that these "grades" are related to age groups of the society as a whole.

Weitlaner and Hoogshagen recently read a paper at the VII Mesa Redonda de Antropología in Oaxaca, Mexico, entitled "Grados de Edad en Oaxaca" in which they summarized the evidence in a number of Oaxacan communities, both Mixe and Chinantec, for functional age-grading systems which are surprisingly uniform throughout the area.

The evidence points to a pre-colonial origin of the age-grading systems in northeastern Oaxaca-southwestern Vera Cruz,[9] crossing linguistic barriers, as a functional matrix for the development of the kinship systems as they appear in the area.

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8 *Idem*, p. 21.

9 Viola Waterhouse, in making helpful suggestions regarding this paper, has mentioned that she has encountered a similar importance of relative age in kinship systems of both the Tequistlatec and Huamelultec dialects of Chontal of Oaxaca which would suggest that we may have to extend this area to include south Oaxaca and other linguistic groups.

AUSTRALOPITHECUS AND PARANTHROPUS DENTITIONS*

OMUR A. KUSTALOGLU

THIS PAPER is a discussion of the essential similarities and differences of the australopithecine dentition between *Australopithecus* and *Paranthropus* with special reference to later hominid and extant pongid dentitions.

With the appearance of mammal-like reptiles some 200 million years ago, the simple array of cones of the reptilian dentition began its differentiation. These early morpho-differentiations, in order to meet the functional requirements of the organism, were first supplied by the selection of relatively simple changes. However, these early simple differentiations of the dentition through the geological epochs became diversed, complicated, and brought at times a highly variant puzzle before the paleontologist and paleoanthropologists. On one hand, these variations are appreciated so that the concurrent characteristics can be identified more clearly and the accession to a taxonomic and phylogenetic status may be obtained. On the other hand, a vexing predilection towards an equivocal expression of certain characteristics of dentition may occasionally confound the issue. This would be particularly the case when finer separation or unified classification of the two individuals is desired with but fragmentary evidence. As was emphasized by Le Gros Clark (1955), for determinations of this sort, the individual characteristics should not be singled out, but the comparison should be based "on a consideration of the *total pattern* which they present in combination." Simple as it seems, this idea has been frequently neglected and can and should be applied in the comparative studies of dentition at all times.

Stating it more specifically, Hürzeler's (1958) *Oreopithecus'* upper molar teeth, on the basis of the fovea anteriors alone, do not justify a closer relationship to *Homo sapiens* than the *Dryopithecus*. In fact, the general crown contour and morphology, the cusp architecture, that is, the *total pattern* of Dryopithecus molars, indeed shows much more similarity to those of hominids in general, and *Homo sapiens* in particular, than does the *Oreopithecus*. Also, it goes without saying that the *Sinanthropus* of Weidenreich can not be adjudged ancestral to the populations with Mongolian traits solely on the basis of Carabelli's pit. Numerous other examples of this nature caused turmoil from time to time in the physical anthropological literature. Therefore, the main objective in the analysis of the dentition should be the essentially taxonomically valuable characteristics *in toto*, and at no time should conclusions be drawn on the basis of a single highly variant trait.

* From Walter G. Zoller Memorial Dental Clinic of the University of Chicago.

In the analysis of the taxonomically closely related groups, such as in the two genera of australopithecines, reliance should be based on characteristics of this sort. Indeed, their similarity in many essential dental traits is far from fortuitous, but is typically hominid and shared so generally by both genera, that their dentition may be classified under a single title, the Australopithecine Dentition. It is undoubtedly well understood that the dentition alone is still not the only factor which made the authorities believe that the australopithecines are hominids. In fact, it was the significance of the pelvis bone that caused the irrevocable insertion of the australopithecines among the hominids. Nevertheless, the general characteristics of the dentition shared by *Australopithecus* and *Paranthropus* unquestionably contrast with the pongid line of evolution and sufficiently testify to a sharp separation from the latter. Hence, dentition itself is part of the total comparative framework.

Despite the similarities of general characteristics of their dentition, these two genera seem to show some differences in detailed analysis. Then the question, of course, is the significance of these differences. It has been clearly proven that these two genera were not contemporaneous; hence the question arises whether or not morphological variations between these two genera are compatible with the time gap between them. Indeed, the time lapse between the two genera is not greater than the time lapse between various Middle Pleistocene hominids of different geographical localities. Also today, we are well aware that dental variation of minute details does occur between the same primate and mammalian species of different geographical localities. Indeed, relatively minute but significant changes of dentition, probably due to isolation and inbreeding, take place rather rapidly. They may be observed among the various genera and the species of recent Old and New World monkeys and pongids. It may also be mentioned that according to various authors, evolutionary changes did not occur at identical rates in mammals and primates in general, and in family Hominidae in particular. The differing evolutionary rates in family Equidae in the Tertiary (as shown by Simpson, 1953), the rapid hominid evolution and differentiation since the Villafranchian, and the exceptionally sudden appearance of the Cro-Magnon man by the end of the last glacial phase can be classified as classical examples supporting this statement.

Therefore, the differences of certain details in the two genera of australopithecines may be elucidated within this framework, and indeed they are compatible with the time lapse between *Paranthropus* and *Australopithecus*. As a matter of fact, a comparative analysis of the dentition indicates a maximum overlapping of the main traits and consequently calls for a minimum phylogenetic grouping of these two genera, as will be shown in the following detailed analysis.

DENTAL ARCHES AND PATTERN OF ANTERIOR DENTITION

The general pattern of parabolic dental arches is similar in both genera and approximates the later fossil and modern hominids. A significant contrast may easily be made with the elongated U-shaped pongid arches.

In both genera the entire anterior dentition is reduced; canines are small and reveal a hominid type wear-pattern at the tips of their crowns. The anterior segment of the well-formed spee curve is not modified by the projection of canines beyond the level of the adjacent teeth. All these characteristics are within the range of later hominids and are in sharp contrast to the pongids.

Due to a large series of anterior teeth, however, *Australopithecus* has a more prognathic appearance than *Paranthropus*. Nevertheless, it is rather difficult to make any statement other than simply noting that a difference of this nature exists. This slight prognathism of *Australopithecus* is by no means comparable to the situation found among pongids, because (1) the teeth are in a perpendicular position in the alveolus in contrast to the relatively procumbent appearance of pongid teeth; (2) the amount of prognathism is very slight and its variation from *Paranthropus* would be very comparable to the variation found between Whites and Australian Aboriginals.

No primitive diastema is present between the canine and P^3, which is in complete agreement with the situation found in all the later hominids, except the *Pithecanthropus* IV maxillary fragment. In living apes this diastema always occurs, and is related to the premaxillary bone formation and interlocking of the massive canines. Then what would be the interpretation of the presence of this primitive trait in a later and more advanced hominid, *Pithecanthropus,* and its non-occurrence in earlier and more primitive hominids, the australopithecine? Should we deny the taxonomic value of this trait or should we exclude the evolutionary stage of *Pithecanthropus* from the hominid line on the basis of this trait and label the latter as a pongid? Le Gros Clark (1955), taking into consideration a similar development—although of lesser degree—in one of the two maxillary fragments from the Djetis layers of Sangiran, writes, "the primitive trait of a diastema in the upper dentition was thus not a consistent feature of the Javanese representatives of *Pithecanthropus.*" According to Montagu (1936, 1943), gibbons have this diastema formation to a lesser degree than the great apes. However, Montagu declares that in 5.8 percent of the female orangs it may be absent. According to Montagu, this diastema of the *Pithecanthropus* maxilla definitely excludes it from the hominid group. However, taking into consideration (1) that the nature of this diastema is not clearly described with respect to its exact reference points and that

it has been the subject of interpretation without a comprehensive study, including X-ray findings; (2) that the elongation of the canine out of the occlusal level of the adjacent teeth is very limited; (3) that the canine of *Pithecanthropus* in its general morphology is typically hominid and does not associate with a sectorial P^3 as it does in pongids; (4) that modern man, because of macroglossia with or without periodontal disease, may develop a similar diastema; and (5) that a similar variation in female orangs occurs, perhaps it may be surmised that an accidental development of this trait occurs in *Pithecanthropus*. Whatever the case may be, this trait alone should by no means be considered conclusive evidence for the exclusion of *Pithecanthropus* from the family Hominidae.

In australopithecines (in one specimen of each genera) there actually occurs a crowding in the lower anterior dentition. This feature is quite common among recent men, and from this point of view, it may be considered as an advanced feature in australopithecines.

ATTRITION

Marked wear of teeth throughout the dentition and the vertical position of the abraded anterior dental segment both indicate an edge-to-edge occlusal relationship. This undoubtedly indicates a hominid pattern of lateral movements of the mandible in contrast to pongid dentition in which rotatory movements of the jaws do not occur.

The extensive degree of attrition among Neanderthals and Australian Aboriginals also agrees with the wear pattern of australopithecines. In recent hominids, either dietary or customary habits cause extensive wear, resulting in an edge-to-edge occlusal relationship of the jaws. From this point of view, the edge-to-edge occlusal relationship is a secondary development as a product of wear. Therefore, contrary to Robinson's belief, it is probable that the same situation prevailed in australopithecines. That is, the edge-to-edge occlusal relationship was not a primarily centric occlusion, but was created secondarily by the wear of the teeth.

Robinson, in his discussion of the attrition of the lower jaws, differentiates buccal wear in *Australopithecus* from lingual wear in *Paranthropus*, with the reverse situation in the upper jaws. This author relates the difference to diet and to the width of the arch, which is narrower in the former and wider in the latter. It is rather difficult to relate the wear pattern to arch width. Perhaps the diet differences would explain this slight variation between these two genera. Indeed, a hard and gritty diet would probably necessitate more pressure with less lateral excursional amplitude, thus causing more lingual wear in the lower and more buccal wear in the upper jaws, as seems to be the case in *Paranthropus* compared to *Aus-*

tralopithecus. Whatever the case may be, it is not a significant variation with important taxonomic value. The pertinent point is the fact that in both forms a general hominid pattern of masticatory movements was brought about.

SHOVELING AND LINGUAL TUBERCLE

A moderate amount of shoveling of I^1 and I^2 is present in both genera. Pronounced shoveling in southeastern Asiatic Middle Pleistocene hominids and the populations with general Mongolian traits led Weidenreich (1937) to believe in a direct descent of the latter from the former. Marked shoveling is also reported in Neanderthals. In modern man, including both Whites and Negroes, shoveling generally appears but slightly pronounced and in low frequency. Also, the living pongids, particularly orangs, have marked shoveling and their enamel ridges may be associated with wrinklings.

The hominid lingual tubercle occurs at the conjunction points of the enamel ridges in the apex of the upper incisor's lingual surface. It may vary in form from a prominent tubercle formation to finger-like multiple ridges, or it may be absent completely. When moderate or pronounced shoveling is present, the lingual tubercle is usually in a ridge form and encircles a pit formation. Windle and Humphreys (1887) and Hrdlička (1921, 1924) related this tubercle formation to the cingulum. Adloff (1908) separated shoveling from the lingual tubercle formation and believed that the former actually is formed by the latter. According to Robinson (1956), however, only Neanderthal and modern man exhibit this trait; hence it is not a primitive feature. A general thickening of the enamel ridge in the area is common among pongids. Then what would be the answer in terms of tubercle formation in this region? Is this evolutionarily a new trait occurring only in Neanderthal and recent man—particularly in White and Negroes—or is it simply the remnants of the primitive cingulum rapidly differentiating in an irregular fashion? The last conjecture seems the more plausible explanation. Like Carabelli's complex, this trait exhibits a considerble degree of variation, and indeed it may be identified as a development parallel to the former. Then, contrary to Adloff's statement, the tubercle formation is a simplification and specialization of shoveling. Thus, the latter *could not* originate from the former. Consequently, in recent hominids the general trend of this trait is through the stages of small tubercle and finger-like eminences to an ultimately smooth pattern. Then, no matter how frequently shoveling is present among Mongoloids, because of variation, it does not justify their being considered directly descended from *Sinanthropus*.

LOWER INCISORS AND LATERALS

Except for size differences, the general pattern is extremely hominid-like in both genera of australopithecines. Slight shoveling may be present, which is also a variable and common trait both in fossil and recent man. Robinson considers the marked distal incisal angle in I_2 and "the sharpness and the relatively high number and large size of the mamelons" as characteristics more easily found among pongids than hominids, and regards the *Australopithecus* as more primitive than *Paranthropus*. However, all the described characteristics are quite common among recent hominids and are not to be considered primitive. Functional attrition on the distal edge of I_1 and particularly of I_2 is quite frequent among hominids. Also the sharpness and the mamelons of the incisal edge always occur in not-fully developed I_1 and I_2 of recent hominids. The fact that the roots are not yet developed is rather important, because it indicates that these teeth were unused for a long time, representing a condition comparable to the age range 8-10 years in modern hominid dentition. In the latter, following the eruption, the I_1 and I_2 are always sharp edged and possess small mamelons in varying number. However, after two or three years of use all these features completely fade away. Therefore this trait should not be considered primitive, and it would be unjustifiable to differentiate *Paranthropus* from *Australopithecus* in this respect. In fact, two upper incisors (SK13, SK2) of the former show the same degree of these developmental increvices as the latter.

MAXILLARY AND MANDIBULAR CANINES

Maxillary canines of the two genera approximate each other in general morphology except for some robustness in *Australopithecus*. The mandibular canine is also larger in *Australopithecus* than in *Paranthropus;* and with its asymmetry and the high contour of its crown, the former has a more primitive appearance. According to Robinson, the canine size of Middle Pleistocene man of China and Java exceeded that of *Paranthropus*.

Recent man's canine tooth also shows a considerable amount of variation. In Neanderthals and Mongoloids, shoveling, although less than in incisors, also appears in the canines. The lingual tubercle or finger-like eminences of the canines are not different from what is found in the incisors and probably can be explained on the same basis.

Thus the main features of australopithecine upper and lower canines in their general morphology show agreement with the later fossil and recent hominid canines.

The root size of the canines in both genera is generally large and the trace of a groove is present on mesial and distal surfaces. The slightly larger roots with smaller crowns of *Paranthropus,* in contrast to the reverse situation in *Australopithecus,* made Robinson believe that reduction of the crown size preceded reduction of root size. The persistence of relatively large root size in comparison to crown size in Middle Pleistocene hominids, Neanderthals, and even recent man strongly supports this statement. However, the most important point about australopithecine canines is that both the crown and the root are significantly dissimilar to the pongid pattern.

MAXILLARY PREMOLARS

It may be significantly noted that the crown morphology of P^3 and P^4 agree extensively with each other in both forms. The definite bicuspid shape of the premolars lacks the traces of cingulum on buccal and lingual surfaces and shows quite a similarity to hominids. The development of the lingual cusp almost to a degree equal to the buccal, as well as the general contour of these teeth, shows a typical hominid pattern, hence exhibits a sharp contrast with pongids.

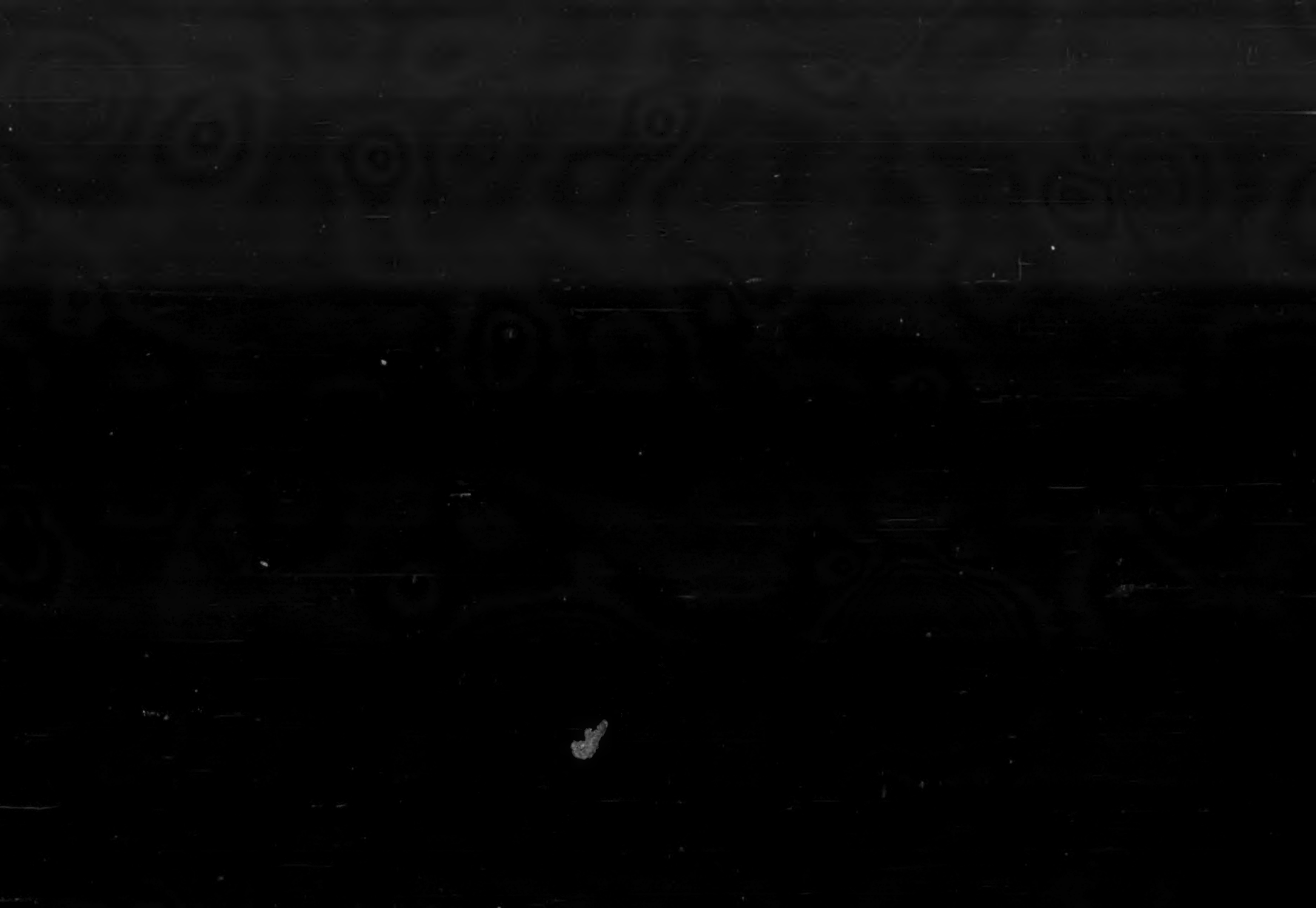
However, the primitive 3-root pattern is particularly observed in *Paranthropus* in both P^3 and P^4. This contrasts sharply with the general 2-root pattern in upper premolars of *Australopithecus. Paranthropus* thus shares this primitive characteristic with pongids. Perhaps the argument used for the canines—that is that the changes towards hominid dentition occur at a faster rate in crowns than in the roots—may also be applied here. However, in fossil and modern hominid dentition a fused 3-root pattern is also observed in a very low frequency (3-6%). Nevertheless, in the latter, both P^3 and P^4 are generally single rooted. In recent hominids, when present, the double root formation occurs in P^3 only in 20-30% frequencies.

According to Robinson, in *Paranthropus,* the size formula is always $P^4 > P^3$. For *Australopithecus,* it is variable. In this respect, all the later hominids uniformly have a $P^3 > P^4$.

LOWER PREMOLARS

The crown morphologies of the two genera show extensive similarities in general pattern. Hence, a sharp distinction from the extant sectorial pongid pattern is conspicuous. *Paranthropus* lower premolars are somewhat larger and more rounded than are those of *Australopithecus.*

The few available lower premolars of Middle Pleistocene hominids of southeast Asia and north Africa available agree with the general pattern of australopithecines. In both the Early and Middle Pleistocene hominids slight traces of cingulum are found on the mesial slope of buccal surfaces of both P_3 and P_4.



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Neanderthal and recent hominid dentitions consistently lack these traces of cingulum on the buccal surfaces. From this it may be deduced that marked reduction of traces of cingulum in P_3 and P_4, in contrast to molars, persisted only through the Middle Pleistocene and only relatively recently completely disappeared.

As is observed by Remane (1952) and Robinson (1956) it is interesting to note that australopithecines and Middle Pleistocene hominids show a generalized biscuspid shape of P_3, that is, a relatively large and elevated lingual cusp. In contrast, in Neanderthals and particularly in modern hominids, a secondary reduction of the lingual cusp in P_3 seems to prevail. In spite of the great variation of this trait among recent hominids, it is interesting to notice a prevalent secondary pseudo-sectorial P_3 formation.

MAXILLARY MOLARS

The basic crown and root morphology of the maxillary molars shows no distinction between the two genera. M^1 and M^2 in particular are quite stable and do exhibit a (·┼4) pattern. Although a slight variability in M^3 is observable, presence of a hypocone is almost always detectable. Accessory tubercles, slight surface crenulation, and slight variability have a little higher occurrence in *Paranthropus* than in the *Australopithecus*. According to Robinson, the most obvious differences between molars are (a) in absolute size, and (b) in relative sizes of M^2 and M^3.

The molars of *Sinanthropus* and *Pithecanthropus*, particularly the former, show extensive enamel wrinkling, thus indicating a deviation from the ancestral australopithcine pattern. However, similar crenulations may be encountered occasionally in recent man.

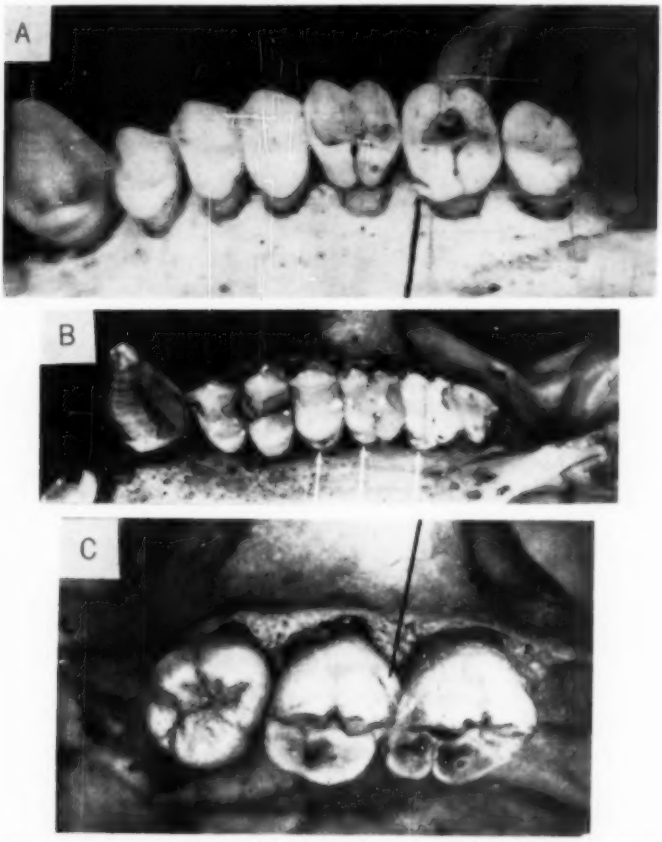
The molar size formulas in *Paranthropus* and *Australopithecus* are $M^3 > M^2 > M^1$ and $M^2 > M^3 > M^1$ respectively, and in *Pithecanthropus* and *Sinanthropus* they are $M^1 < M^2 > M^3$ and $M^2 > M^1 > M^3$ respectively. In Neanderthals and modern hominids, the reduction of M^3 is well established and M^1 is almost always the largest tooth. Then what would be the general assumption in terms of upper molar size? The pongids—living or extinct—in general have rather consistently the formula of $M^3 > M^2 > M^1$. The fluctuations of molar size in the two genera of australopithecine and in Middle Pleistocene man of southeast Asia, indicate that changes away from the basic pongid pattern were taking place which were well established through a Neanderthal phase, particularly in the recent hominids. However, in the molar size formula, variations may be encountered even among the pongids, i.e., in the Liberian chimpanzee M^3 is actually the smallest tooth (Schuman and Brace, 1955).

The Carabelli's complex differs in its pattern and degree of incidence quite clearly in these two genera of australopithecines. In fact, in *Paranthropus* some indication of the Carabelli complex is usually present in a varying degree and in a more hominid pattern than in *Australopithecus*. A simplified groove-cusp pattern is present in the former in contrast to a generally well-delineated cingulum formation in the latter. From this point of view the australopithecines, particularly *Paranthropus*, are quite important because the first radical change in the fossil record of the cingular pattern toward a simplified, modern hominid-looking, groove-cusp relationship is exhibited. Among Middle Pleistocene hominids of southeast Asia only one specimen had a pit formation. In Neanderthal man cusp, pit, and furrow formation occur. Among recent hominids a variety of Carabelli's structures are present which prevail in a cusp formation among Whites and Melanesians, and in a pit formation among Mongoloid populations. However, Carabelli complex does occur with a high frequency throughout the primates. The controversial Carabelli cusp is nothing but a special expression of the Carabelli complex, which is by no means an exclusive characteristic of the hominids and does occur among primates (Kustaloglu, 1960), sometimes almost identically with the hominid pattern. This is particularly the case in various species of New World monkeys (Plate 1, A and B). Therefore, as was also postulated by Weidenreich (1937) and Koenigswald (1942), the phylogenetic importance of this complex is not as significant as it was frequently thought to be. This would imply that this characteristic should not be used by itself in comparative studies, but in combination with the other characteristics, forming a total pattern.

MANDIBULAR MOLARS

The lower molar sizes change compatibly with the upper, *Paranthropus* having $M_1 < M_2 < M_3$ and *Australopithecus* $M_1 < M_2 > M_3$. The size formulas described above for the upper molars also hold for the lower molars of all the later hominids. Recent hominids have $M_1 > M_2$, and M_3 is almost always the smallest tooth. Apparently reduction of M_3 is a recent development in the hominid dentition and was initiated approximately with the appearance of Neanderthal man. Its complete absence in 20-30 percent of recent men also indicates a specialized evolutionary trend.

The general crown morphologies of *Paranthropus* and *Australopithecus* are quite similar. However, slight differences in detail are present. *Paranthropus* has a more rounded crown contour, less developed protoconidal cingulum, and higher frequency of tuberculum sextum in M_1 in contrast to *Australopithecus*.



A. Left upper jaw of a New World monkey *(Lagothrix lagotricha)*. M^1 and M^3 do not have any delineation of Carabelli's cusp. However M^2 has a well marked Carabelli's cusp formation on the lower mesial slope of the protocone. (Courtesy of Chicago Natural Hustory Museum #41496)

B. Left upper jaw of a New World monkey *(Cebus nigriattatus)*. Well-marked Carabelli's cusp are present on both M^1 and M^2. Also note the lingual and buccal cingulum formation in P^4 and P^5. (Courtesy of Chicago Natural History Museum #87848).

C. *Homo sapiens* (upper right jaw). M^2 has a paramolar groove and related cusp formation on the mesial slope of the paracone.

The occlusal morphology generally may be stated as *Paranthropus* having a Y5 groove pattern in M_1, and +5 groove pattern in both the M_2 and M_3, in contrast to +5 groove pattern of *Australopithecus* on all the molars. From this point of view, the latter shows some advancement towards a +5 pattern. Hence australopithecines show some dissimilarity from the Middle Pleistocene, southeastern Asiatic, and African hominids in whom a typical *Dryopthecus* pattern and marked enamel wrinkling are present throughout the molar series.

In Neanderthal and recent man, the Y5 pattern prevails in M_1 rather consistently and with a high frequency. However M_3 and particularly M_2 show a divergence from this pattern toward +5 and +4 groove patterns. However, the relative stability of the Y5 pattern is retained in M_2 and M_3 in some populations of recent man, i.e., in Eskimoids and the Australian Aboriginals.

The living apes always retain the Y5 *Dryopithecus* pattern in M_1 and M_2. In fact, they may actually have an additional cusp formation which is referred to by some authors as Y6 pattern. The molar size formula usually is $M_3 > M_2 > M_1$. However, some variation in various species of pongids may occur, and M_3 may show reduction and simplification of the basic *Dryopithecus* cusp pattern.

The mesial slope of the buccal surface of australopithecine molars has a cingulum formation which is particularly marked in *Australopithecus* and is diminished in its extension in *Paranthropus*. Actually, particularly in *Paranthropus*, the fading of this structure gives rise to a pit formation, or, if it is associated with an enamel relief, a small protostylar- (or protostylid-) cusp may be formed. From this point of view *Paranthropus* appears more advanced than *Australopithecus*. In recent hominids, these protostylar structures, like Carabelli's complex, may vary from a furrow, or pit, to a cusp formation (Plate 1, C). In anthropological literature the cusp formation is referred to as the paramolar cusp in the upper molars and protostylid (Dahlberg, 1950) formation in the lower molars. The pit formation occasionally occurs among Mongoloids and the cusp formation is found rarely among Melanesians. Although the buccal protostylar structures, like Carabelli's structures, originate from the cingulum, the frequency of occurrence of the former is by no means comparable with that of the latter. The ultimate interpretation of this fact would be that the traces of cingulum in modern hominid dentition are reduced much more markedly on the buccal surface than on the lingual surface. This is also in agreement with the situation found in *Australopithecus*.

DECIDUOUS MOLARS

The general morphologies of the deciduous molars of the two genera of australopithecines are quite similar. However, the *Paranthropus* deciduous molars are always larger and much more molarized than those of *Australopithecus*.

TAURODONTISM

The pulp sizes of the two genera of australopithecines are equivalent and do not deviate from what would be observed in recent White populations. However, marked taurodontism is common in many later fossil hominids and recent Mongoloids. Taurodontism is also observed in all Middle Pleistocene hominids of southeast Asia, north Africa, and Europe. However, the Neanderthals, particularly the classic Neanderthals, have the greatest degree of taurodontism in the fossil record. Taurodontism in both fossil and living hominids increases in the direction of M1 → M2 → M3. According to Keith (1913) taurodontism does not occur among non-hominid primates and is a primitive hominid characteristic. A similar view is expressed by various other authors. It is difficult to speculate on the exact nature and significance of taurodontism. Its relatively late appearance in hominid evolution probably suggests a new mutation in Middle Pleistocene man which became extremely specialized, particularly among the classical Neanderthals. This exaggeration of taurodontism among classic Neanderthals perhaps would support the general idea of their isolation and marked inbreeding during the early last glaciation.

SEXUAL DIMORPHISM

In pongids, sexual dimorphism is quite prevalent, particularly in the canine teeth and their interlocking system. Sexual dimorphism is not present in later fossil and recent hominids and in both genera of australopithecines.

DISCUSSION AND SUMMARY

As is observed in this study, when the total characteristics are taken into consideration, basic morphological similarity between the dentition of the two genera of australopithecines is extreme and agrees with the typical hominid pattern.

The major differences lie in the regional size variation and in minute details of crown morphology.

Australopithecus has a heavier anterior dentition with a smaller series of molars in contrast to the exactly reverse situation in *Paranthropus*. According to Robinson, this enlargement of molars in *Paranthropus* was probably due to the environmental changes necessitating a selection toward a more efficient and powerful grinding mechanism which concomitently caused a heavier cranial architecture in

Paranthropus than that of *Australopithecus*. This very well may be the case. However, taking into consideration comparable developments in classic Neanderthals during the early part of the last glaciation, it may perhaps be speculated that in *Paranthropus* a similar specialization actually occurred. However, the objection to this statement would be the fact that the severe climatic conditions which prevailed during the last glaciation, causing severe isolation and inbreeding, did not affect *Paranthropus*. Nevertheless it may still be assumed that, for reasons which are unknown at the present time, *Paranthropus* was actually isolated in such a way that the genetic drift was minimized and a development similar to that of classic Neanderthals took place. Also, perhaps as a third possibility, we may consider the combination of Robinson's suggestion and the latter postulate.

As an over-all summary, it could be stated that the degree of difference and variation between the dental morphology of these two genera of australopithecines is not greater than the variation and differences which could be found between the Whites and Australian Aboriginals of today.

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AN ANALYTICAL NOTE ON THE STRUCTURE OF SIRIONÓ SOCIETY

RODNEY NEEDHAM

THE OBJECT of this note is to establish Sirionó society as a matrilineal instance of asymmetric prescriptive alliance.[1]

I

There is a type of social system in which lineal descent groups are allied by the prescriptive transfer between them of certain prestations which are differentially appropriate to their component categories. This mode of exchange is exhibited principally in the communication of women, and may be either symmetric (reciprocal) or asymmetric. I have elsewhere designated forms of society of this type as "prescriptive alliance systems." The present analysis is concerned only with asymmetric prescriptive alliance.

The formal features of an asymmetric system may be seen in a figure of genealogical form (Fig. 1). This represents three exogamous patrilineal descent lines,

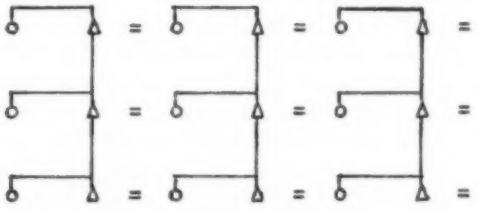

FIG. 1. Asymmetric Alliance.

three being the minimal number satisfying the structural requirements of the system. From the point of view of any line, the system is based on the distinction of three major classes of relatives, viz. lineal kin, wife-givers, and wife-takers. Lineal kin may not of course be married, and neither may women of a wife-taking line.

1 This investigation is part of a comparative study of forms of prescriptive alliance throughout the world, and is intended to appear eventually in company with other such analyses in a monograph devoted to the topic in which more general theoretical points will be made. My particular interest at present in placing this interpretation of Sirionó society on record is to support part of the argument of a forthcoming monograph (Needham, 1961b), in which at one point Sirionó ethnography plays an important part.

Marriage is prescribed with a woman of a wife-giving line,[2] and typically with the matrilateral cross-cousin, it being understood that this relative is a classificatory member of the category and not exclusively the genealogical mother's brother's daughter. This rule of marriage has the consequence that women are transferred unilaterally, in one "direction," and formally in a cyclic fashion. This asymmetric rule characteristically applies also to the transfer of certain other prestations, which are commonly divided into two classes: goods which are transmitted in the same direction as women, and goods which are transmitted in the opposite direction. Though initially defined in terms of the unilateral transfer of women, the system is in fact typically constituted by the exchange of these two complementary classes of prestations. That is, the system is defined by the asymmetric mode of prestation by which alliances between lines are effected.[3]

This characterization has been made by reference to a patrilineal system, since in the first place a patrilineal rule of descent is conventional in general discourses on descent systems. Moreover, patrilineal societies are numerically preponderant in the world, and systems of asymmetric alliance are in fact typically patrilineal. But there exist nevertheless a considerable number of matrilineal societies, and in view of their peculiar features which have continually attracted the special attention of social anthropologists it is a matter of immediate interest to determine whether asymmetric alliance is feasible in a matrilineal system also.[4]

The issue has been discussed by Lévi-Strauss in his remarkable work *Les Structures Élémentaires de la Parenté,* in which he comes to the conclusion that in asymmetric alliance we are dealing with a structure which is "indifferent to the type of filiation." He adduces the matrilineal Garo and Khasi as societies showing empirically that "the structure of generalized exchange [i.e. asymmetric alliance] does not depend at all on filiation, but only on the harmonic character of the régime considered."[5] By "harmonic" he means a system in which the rule of descent and locality of marital residence are of the same character, thus patrilineal-patrilocal or matrilineal-matrilocal. It is possible to question the criteria by which he

2 N.B.: not necessarily a woman of a particular substantive descent group, for marriages may be contracted with groups not previously related by alliance, and moreover alliances may be reversed so that a wife-giving group may become a wife-taking group. That is, the above characterization is a structural representation and refers exclusively to types of relations, not to contingent connections between existential aggregates. (Further analytical observations on asymmetric alliance will be found in Needham, 1961a.)

3 For examples of this kind of society, analyzed in these terms, see Needham 1958, 1960d.

4 It may be as well to remark explicitly that asymmetric alliance is possible only in unilineal descent systems, and only matrilaterally (cf. Needham, 1960e, pp. 278-282.)

5 Lévi-Strauss, 1949, p. 334.

defines the rule of marital residence, and thus the precise bearing of the proposition; but the essential feature to be appreciated is that he is concerned with structural possibility. This feature he himself emphasizes in another place, where he states precisely that what he is asserting is that there is no "necessary connection" between unilateral cross-cousin marriage and rule of descent.[6] The issue, then, is the structural compossibility of asymmetric alliance and matrilineal descent.

Unfortunately, however, neither the Garo nor the Khasi actually possess the prescriptive rule of marriage by which Lévi-Strauss defines the systems to which his study relates,[7] viz. systems of prescriptive alliance. Though we may accept his proposition in a formal sense, therefore, it has not been empirically demonstrated. However, there certainly exist two societies which are of the required type and which do validate the proposition. One of these is the Sirionó, to which we may now turn.[8]

II

The Sirionó (or Mbía) are a semi-nomadic Tupí-speaking people of eastern Bolivia. They have been described in a monograph by Holmberg[9] based on field research carried out in 1940-41.

They number about 2000 and are widely dispersed in small groups of from 30 to 120 individuals. Their economy is based predominantly on hunting and collecting, but they also plant small crops of maize, manioc, sweet potatoes, etc. Each group is presided over by a chief, who, however, possesses little formal authority.

6 Lévi-Strauss, 1958, p. 334.

7 Lévi-Strauss, 1949, p. ix, passim; 1958, p. 345.

8 The other example is a certain section of the Belu, in central Timor, eastern Indonesia. They have already been very briefly characterized in this connection (Needham, 1960a, p. 70) and I intend to publish a full analysis at some later date.

Postscript. While this paper was in press there arrived in Oxford a copy of the newly-published *Social Structure in Southeast Asia* (Viking Fund Publications in Anthropology, no. 29, New York, 1950), and this contains evidence of the existence of one more matrilineal asymmetric alliance system, *viz.* the Mnong Gar of central Vietnam, whose social system is very briefly described (pp. 15-23) by Georges Condominas. The representation of the system of descent and alliance contains certain obvious errors, but the text permits no doubt of the nature of the system. M. Condominas has promised also a future structural analysis of the descent system.

This added instance of asymmetric alliance is especially interesting in another respect, since the Mnong Gar are a Mon-Khmer-speaking people and are therefore related, if distantly, to the Lamet of Laos. In an earlier analysis I demonstrated the practice of asymmetric alliance among the Lamet, and suggested an investigation into whether traces of such social organization were to be found elsewhere among a Mon-Khmer-speaking people (1960d, pp. 116-117); and in another place I proposed that "prescriptive alliance appears to be an indigenous Mon-Khmer trait, perhaps common at some period to all members of the language family" (1960a, p. 65). The Mnong Gar case is thus a source of particular satisfaction. Also, the fact that the Mnong Gar are matrilineal while the related Lamet are patrilineal underlines the concluding observation of the present analysis.

9 Holmberg, 1950.

There is no over-all political, economic, or ceremonial organization, and there are few contacts between the groups. The entire local group lives in one large hut.

The descent system is matrilineal,[10] but it is reported that there are "no unilineal kin groupings such as moieties, clans, and sibs." The largest descent group is an "extended family" consisting of lineally-related women plus their husbands and children, marital residence being matrilocal. Matrilocality, however, is of limited significance, since as the groups so rarely meet they are practically endogamous[11] and at marriage the husband simply moves his hammock from one part of the hut to another. The majority of the members of the group are thus related to each other in one way or another. The composition of one group is recorded as 17 elementary families grouped into 5 extended families, comprising 94 individuals in all; of another, 14 elementary families grouped into 4 extended families, totalling 58 individuals.[12]

> The preferred form of marriage is that between a man and his mother's brother's daughter. Marriage between a man and his father's sister's daughter is forbidden. . . . In actual practice, however, the choice of mate is not limited to a first cross-cousin. If such a relative is not available for marriage, a second cross-cousin, a first cross-cousin once removed, a classificatory cross-cousin, or a nonrelative may be substituted.[13]

Of the fourteen marriages in one group, six were with the "mother's brother's daughter," a woman whom a man addresses as "potential spouse." Polygyny is allowed, and sororal polygyny is preferred.

Incest taboos forbid marriage with

> a parallel cousin, with the child of a sibling of the same sex, with the child of a parallel cousin of the same sex, with a sister or a parallel cousin of the mother, with a brother or parallel cousin of the father, or with the child of anyone whom one calls 'potential spouse,'

10 In the light of the clear statements to this effect in Holmberg, 1948 and 1950, it is perplexing that Murdock in three places describes the Sirionó rule of descent as "bilateral," i.e. cognatic. It is so described in his *Social Structure* (based on Holmberg, 1950, then in press), and the Sirionó are therefore assigned to the "Fox" type of social organization (1949, p. 243). In his survey of South American cultures the Sirionó rule of descent is correctly given as "matrilineal" (1951, p. 44); but in his "World Ethnographic Sample" the Sirionó are again listed as recognizing "bilateral" descent (1957, p. 685), and his latest characterization also lists them as "bilateral" (1959, p. 137). Holmberg's own definitions apart, the relationship terminology (see below) leaves no doubt that the system is in fact lineal.

11 Steward and Faron's ethnographic survey of native peoples of South America incorrectly states that "the band tends to be exogamous" (1959, p. 428).

12 Holmberg, 1950, pp. 50-51.

13 Holmberg, 1950, p. 81. See also: "Asymmetrical cross-cousin marriage is the preferred type; a man marries his mother's brother's daughter" (Holmberg, 1948, p. 461).

and also between grandparent and grandchild, parent-in-law, and child-in-law, uncle and niece, aunt and nephew, a woman and her mother's brother's son, and a man and his father's sister's daughter. Incest is believed to be punished by sickness and death, but the ethnographer learned of no actual cases.[14]

From the combination of "preferred" matrilateral cross-cousin marriage and prohibition of patrilateral cross-cousin marriage we may immediately conclude upon the probable existence of asymmetric alliance. Let us now proceed, therefore, to an analysis of the relationship terminology, which may be expected definitely to reveal whether or not Sirionó society is so organized. The terms and their genealogical specifications are as in Table 1.[15]

TABLE 1

Sirionó terminology of relationship

1. *ámi*	FF, FFB, FFZS, FMB, FMBS, MF, MFB, MFBS, MMB, MMBS, MMZS, MB, FZH, FZS(ms), WF, WFF, ZH(ms), HF, HFF, HZH
2. *ári*	FM, FMZ, FMZD, FFBD, FFZD, MM, MMZ, MMBD, MBW, FFZ, FZ, FZD, WM, WMM, HM, HMM, HZ
3. *éru*	F, FB, MZH, FFBS, FMZS
4. *ézi*	M, MZ, FBW, FMBD, FFBD, MMZD
5. *anóngge*	B, Z, MZS, MZD, FBS, FBD
6. *yánde*	MBD(ms), WZ, WZH, FZS(ws), HB, HBW
7. *akwanindu*	MBS, MBSS, FZDS, DH, MZDS(ms), ZS(ms), FBDS(ms), FZSS(ms), WB, MBDS(ws), MZSS(ws), BS(ws), FBSS(ws)
8. *akwáni*	MBSD, SW, MZDD(ms), ZD(ms), FBDD(ms), FZDD(ms), FZSD(ms), WBW, MBD(ws), MZSD(ws), BD(ws), FBSD(ws), FZDD(ws) BW(ws)
9. *edídi*	S, D, BS(ms), BD(ms), FBSS(ms), FBSD(ms), MZSS(ms), MZSD(ms), MBDD(ms), MBDS(ms), ZS(ws), ZD(ws), FBDD(ws), FBDS(ws), FZSS(ws), FZSD(ws), MZDD(ws), MZDS(ws)
10. *áke*	"grandson, granddaughter, child of nephew or niece, child of first cousin once removed, child"
11. *nininízi*	W, H

A conventional analysis of the specifications confirms that we are dealing with a lineal descent system, the following minimal equations and distinctions being typical:

14 Holmberg, 1959, p. 64.

15 In the specifications, "Z" stands for "sister." In the one term affected I render Holmberg's phonetic sign "N" as "ng."—The terms in Holmberg, 1948, p. 459 do not all agree with those listed here and are not taken into account; but there is no structural discordance in the specifications reported.

F = FB	FB ≠ MB
M = MZ	FZ ≠ MZ
B = MZS/FBS	B ≠ MBS, FZS
S = BS	S ≠ ZS.

The prescriptive rule of marriage is indicated initially by the usual feature of alliance systems that "there are no special affinal terms,"[16] and shown by the following:

FB = MZH	MBS ≠ FZS
MZ = FBW	MBD ≠ FZD
MB = WF	ZH ≠ WB.
MBW = WM	

The system may be represented in genealogical form as in Figure 2, with the aid of which we may now return to the regulation of marriage. It clearly appears

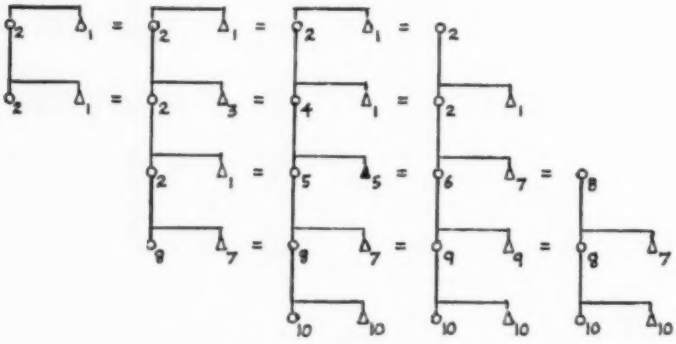

Fig. 2. Sirionó system of descent and alliance.
(Cf. Holmberg, 1950, pp. 53, 55, 56, Figs. 1-4)

from the figure that the marriage of every masculine position is with the matrilateral cross-cousin.

This being the case, however, certain genealogical specifications reported must be incorrect, viz. *ézi* = FFBD, *yánde* = WZH, HBW, and *áke* = C. FFBD

16 Holmberg, 1950, p. 56.

occupies the same structural position as FZ, and may therefore be expected to be denoted by the same term, viz. *ári*. By the rule of marriage, WZH should occupy the same position as B, and may therefore be expected to be known by the same term, viz. *anóngge;* and this is supported by the fact that "there is a strong tendency for brothers to marry sisters."[17] Similarly, HBW occupies the same position as Z and may be expected to be known by the same term, viz. *anóngge*. The specification C for *áke* is redundant to *edídi* = C, which is clearly correct. In the face of the overwhelming connotations of the 107 other specifications in the Table, and consistently with the system which they frame, it seems obvious that these specifications are mere slips of transcription or exposition and are not to be taken as controverting the evident rule of matrilateral cross-cousin marriage.[18]

Moreover, this rule necessarily applies, as can be seen by remarking within the figure those feminine positions with which, by the rules enunciated above, marriage is prohibited. There are only three feminine positions in the figure which are not specifically covered by these rules, viz. FZHZ, WBW, and ZHZD; but these positions are denoted by a single term *(akwáni)* which elsewhere in the system applies to persons with whom marriage is explicitly forbidden (viz. ZD, SW), and we may therefore legitimately infer that marriage is equally forbidden with all members of this category. This consideration, however, introduces another inconsistency. The ethnographer reports that marriage with a "first cousin once removed" is permitted, but it seems impossible that this should really be the case. As FZSD, FZDD, or MBSD such a relative is denoted by the term *akwáni,* and marriage with her is therefore forbidden; while as MBDD she is *edídi,* and marriage in this case is equally forbidden. Holmberg did discover one (secondary) marriage with FZDD, but this single instance (whether or not he generalized from it to the assumption that other such marriages were permitted, as one may suspect) does not necessarily refute the clear inference that marriage with such a relative must be systematically forbidden. No marriage system can work in an absolutely rigorous fashion,[19] in such a way as to be impervious to demographic and other contingencies; and this "exceptional" marriage may in fact have been regularized in Sirionó eyes by the kind of expedient common to prescriptive alliance systems. It is characteristic of systems of asymmetric alliance that they reverse alliances between groups, so that wife-takers become wife-givers, FZD "becomes" MBD;

17 *Idem*, p. 81.

18 Professor Holmberg has been so kind as to inform me in a private communication that my inferences in these respects are correct. I gather that he was out of the country when his monograph went through press, and had not the opportunity to assure himself of its final accuracy.

19 Cf. Lévi-Strauss, 1949, p. 549.

and that a woman's status may be ritually changed in order to bring her into a marriageable category.[20] It is a reasonable expectation that Sirionó society might also be discovered to make an accommodation of genealogical position to category of social classification such as would enable marriage to be contracted with a "first cousin once removed." The present example, secondary marriage though it is, probably reflects in any case the kind of difficulty inevitable in such a small-scale society in marrying invariably a woman of a certain genealogical position. There is further the possibility that this particular marriage was recorded from the settled and disorganized Sirionó whom Holmberg also studied, and that it constitutes a true exception, a breach of the marriage rules indicating an incipient breakdown of the alliance system among them.

The actual situation is, I think, perfectly clear. There are seven terms with feminine specifications, viz. *ári, ézi, anóngge, yánde, akwáni, edídi,* and *áke.* Marriage is prohibited with women denoted by every one of these terms except *yánde,* a category of which the minimal genealogical specification is "mother's brother's daughter." Marriage in Sirionó society is thus prescribed with the matrilateral cross-cousin.[21]

It should be stressed most forcefully that this type of marriage is not "preferred."[22] Within Sirionó society there is no category other than *yánde* with a woman of which marriage can possibly be contracted, i.e. there is no range of choices within which one category may be preferred to another. The category of possible spouse is explicitly and exclusively prescribed. In this respect, therefore, Sirionó society constitutes a clear instance of asymmetric alliance.

III

It now has to be observed, though, that this conclusion appears to hold in little more than a formal sense. To begin with, Holmberg specifically reports that "Generally speaking, there are no formalized, obligatory patterns of kinship behavior. Brother-in-law avoidance, parent-in-law taboos, joking relationships, etc. are lacking." Apparently, all that is discernible are "patterns of relative reserve and freedom . . . between certain relatives."[23] This is most unlike the situation in other

20 Needham, 1960b, pp. 500, 501, 503.

21 See also Holmberg (1948, p. 461): ". . . marriages do not take place outside this relationship."—It is thus incorrect to say of the Sirionó that they make "no unilinear or bilateral extension of incest taboos beyond secondary relatives" (Murdock, 1949, pp. 226, 234).

22 Cf. Holmberg, 1948, p. 461; 1950, p. 81; Murdock, 1951, p. 44; 1957, p. 685; Steward and Faron, 1959, p. 428.

23 Holmberg, 1950, p. 56.

lineal descent systems, and quite divergent from the marked jural and symbolic distinctions which are characteristic of systems of prescriptive alliance.

The most prominent distinction in asymmetric alliance systems is that between wife-givers and wife-takers, who are commonly of conventionally unequal relative status; but the only behavioral sign of anything of the sort in Sirionó society[24] is the relationship between parents-in-law and children-in-law, which is described as "the most reserved of all" and as marked sometimes by "suppressed aggression."[25] This is not diagnostic of an asymmetric system, however, and in fact is more plausibly to be related in this case to the difficulties commonly associated with matrilocal residence in matrilineal societies.[26]

Next, there is no sign at all of a symbolic division of prestations into two complementary classes. Even on the occasion of the marriage itself, which takes place entirely without ceremony, "no exchanges of property occur." Food is the only object of property transactions, and this is reported rarely to be distributed outside the extended family.[27] But there are other indications on this point. Holmberg writes that in drunken quarrels a man will insult his "brother, uncle, his son-in-law, or even his father-in-law" by saying "You never bring me meat with any fat on it"; and that in one case a man reproached his "father's sister's son" on the ground that he "never brought him any food."[28] The latter incident resulted in a violent quarrel and severe physical violence. The "uncle" is ambiguous, but is presumably FZH and/or MB since FB and MZH are equated with F, and an ethnographer of the Sirionó is unlikely to have forced them also into the English cognatic category of "uncle." This means that the following relatives are involved in these reported situations: FZH, FZS, MB, WF, B, and DH. Now all these relatives except the brother are classificatory affines; and every one of them is at some period at least in a man's life (during which he belongs first to his natal extended family and then to his wife's) outside his own extended family. Yet it seems clear that there is some obligation between these relatives to make gifts of food, and that this is so strong as to lead to insult and violence if it is not met. Such gifts may be rare, and made under coercion, but the point is that they appear to be conventional prestations between affines. In the light of the

24 Strictly speaking, the distinction in Sirionó society should be described as between "husband-givers" and "husband-takers," since it is actually the men who "circulate"; but the system is described from the point of view of the dominant males, and the conventional terms may thus conveniently continue to be used even in this matrilocal context.

25 Holmberg, 1950, p. 57.

26 Lévi-Strauss, 1949, pp. 151-152.

27 Holmberg, 1950, pp. 82, 21, 36.

28 *Idem*, p. 39.

general extreme reluctance of Sirionó to share food at all, and the devices to which they habitually resort in order to evade doing so,[29] these facts concerning gifts of food outside the extended family are of considerable importance. But nothing more precise is to be detected in the ethnography, and we are still left with the apparent lack of distinct but complementary prestations between wife-givers and wife-takers.

Ritual prestations, such as sacrificial services or burial, also seem to be absent from the alliance relationship. Symbolic notions in general, as a matter of fact, appear to be rudimentary; and certainly there is no sign of a systematic concordance of symbolic order with the social order such as is elsewhere to be established in asymmetric alliance systems. The only tantalizing hint of the principles of Sirionó symbolic classification lies in the report that "the first wife usually occupies the position to the right of her husband; the second to the left; the third at his head; the fourth, at his feet."[30] This shows a conventional superiority of right to left, and a common analogical association (right:left::head:feet). But such notions are almost universal, and are of special interest in the analysis of asymmetric alliance only when they are connected with the social system in a way for which the Sirionó ethnography provides no evidence.[31] Attention immediately fastens also on the report that women dance in a counter-clockwise direction, i.e. in a circle which moves round to the left—but so, sadly, do men as well.[32] This appears to mean, rather unexpectedly, that the superiority of right over left seen in the relations between women (senior wife:junior wife::right:left) does not also characterize the relation of men to women, even in this fertile context for the expression of such values. The only interesting difference in this respect between the dancing of men and of women is that men, most of whom are in fact right-handed, are linked in the dance-circle by grasping another's left hand with the right, while women place both arms indifferently around the necks of their neighbors;[33] but there is no evidence that this conventional emphasis on the right in the case of men is of symbolic significance. Even if it were it would still not be possible, on the evidence available, to establish any symbolic connections specifically with the alliance system, so this trail of explanation also peters out.

These negative features may be connected with another by which Sirionó society differs considerably from other asymmetric systems, viz. that the alliance

29 *Idem*, pp. 36, 52.
30 *Idem*, p. 49.
31 Cf. Needham, 1958, pp. 90-91.
32 Holmberg, 1950, p. 45.
33 *Idem*, pp. 15, 44-45.

system has no political or other corporate significance. In general, the endogamous nature of the nomadic groups, together with the very small-scale mode of social life, means that we cannot expect to find in Sirionó society the confrontation of corporate descent groups, clans or lineages, localized or dispersed, which in other societies of the type gives the alliance system such vital prominence. There is "considerable cooperation" within the extended family, but it is the elementary family which is the "basic work group"; and although "one of the important legal norms is that of sharing food within the extended family" the evidence relating to this sharing, which is a prime diagnostic feature in the analysis of a hunting and collecting society, indicates that the Sirionó extended family is not in effect a corporate group.[34] The units associated in the alliance system appear thus to be simply the elementary families.

But this very lack of lineal emphasis in social alignments now raises a problem, viz. the significance of the lineal equations made by the term *ári* over three successive generations in the wife-taking line. The equations FZ = FZD and MBS = ZS have led Holmberg to conclude that "the kinship system is thus of Crow type";[35] but the system itself is very different from Crow society in particular and from all other societies which are together usually referred to as of "Crow type."[36] Murdock more accurately says that the Sirionó "kinship terms" are of the Crow type;[37] but, as is well known, he usually characterizes descent systems for his comparative purposes primarily by the so-called "cousin-terms,"[38] and it is far more than these that must engage our attention in this case. What we are in fact dealing with in Sirionó society is a singular system which happens to make certain lineal equations; and our task is not to apply a misleading and inconsequential appellation such as "Crow" but to explain these equations.

To begin with, the so-called Crow equations occur here in a matrilineal society, and are thus by common expectation consistent with the rule of descent. But since no satisfactory general explanation of their differential appearance in matrilineal societies has so far been advanced,[39] and since the societies with reference to which explanations have been proposed do not practice asymmetric alliance, we can find

34 *Idem*, pp. 41, 60.

35 *Idem*, p. 54.

36 See e.g. Murdock, 1949, p. 247.

37 Murdock, 1951, p. 44.

38 Murdock, 1949, p. 223; 1957, pp. 672-673.

39 I refer particularly to Radcliffe-Brown's well-known but notably inadequate attempt by reference to "an extreme development" of "lineage solidarity" (1941), and to the notion of a relative "maturity" of matriliny (Murdock, 1949, pp. 168, 246). This topic, with special reference to prescriptive alliance, will form the subject of a future paper (cf. Needham, 1960c, p. 24; 1960e, p. 289).

no answer in this circumstance itself. In any case, the terminology is even minimally not "strictly" (if it is at all possible to say such a thing) Crow, for FZS is equated not with F but with FZH, MBS is equated not with BS but with ZS, and there is a distinct term for MBD ($\neq$ BD). Furthermore, there are a number of other considerable divergences from what would conventionally be termed a Crow terminology; and these, in the present state of theoretical understanding, preclude useful analysis of Sirionó society as a "Crow" system.

Murdock's view is that the Sirionó "were presumably once Matri-Hawaiian, having acquired Crow terminology on the basis of their residence rule."[40] But whatever the validity of his general scheme of social evolution, this derivation must be faulty because the existing system is not correctly characterized;[41] and considering the nature of Sirionó corporate groups the proposed terminological development, while formally consistent, is a very uncertain conjecture.

Holmberg thinks it probable that the Sirionó are of Guaraní origin, and that as they were driven northward into their present area they lost much of their former culture.[42] The Guaraní were a settled people living in large groups, as many as sixty families sharing the same roof,[43] and it might therefore appear possible that the Sirionó retained a descent terminology more appropriate to this form of social life; but the Guaraní were probably patrilineal, not matrilineal, and thus would not have had a Crow terminology to begin with.

The obvious avenue of elucidation is by comparison with other systems of asymmetric alliance, regardless of the fact that they are nearly all patrilineal. Such societies do commonly make similar lineal equations, though of a type which on the basis of "cousin terms" would conventionally be called "Omaha," e.g. the Purum, the Vaiphei, and the Lamet.[44] In such societies the lineal equations denote corporately the lineal descent groups which are distinguished and related by the alliance system; and in the light of their political, economic, jural, and ritual relations it may readily be understood that they should be lineally distinguished in this way.

But, unhappily, most of the social and symbolic features of these societies are lacking in the reports of Sirionó society, and on the basis of present information it is puzzling indeed that lineal equations should be made by its terminology at all. The equation of FZD with FZ, a senior relative with whom marriage in an

40 Murdock, 1949, p. 234.
41 See footnote 10.
42 Holmberg, 1950, p. 9.
43 Métraux, p. 85.
44 Needham, 1958, 1959, 1960d.

ordinary matrilineal descent system would in any case usually be unlikely, might be connected with the essential prohibition on marriage with FZD; while the distinction MBD ≠ BD permits, as the usual Crow equation would not, the matrilateral prescription. But these are purely formal observations, and devoid of explanatory value. What appears therefore as a classificatory feature appropriate to the alliance system, and one which is consistent with the usual features of asymmetric systems, appears in its social particulars to be inexplicable. Naturally, I regret this conclusion, but one of the singularities of Sirionó society—which it is a task of analysis to point out—lies precisely in this circumstance.

We are led from this, moreover, to another and far more important feature which both formally and comparatively is strange. There is a structural necessity in asymmetric alliance systems to distinguish wife-givers from wife-takers, and they are usually categorically distinguished in the terminology of social classification. But in the Sirionó terminology we find that in certain respects they are on the contrary identified, e.g. in the equations FZ = MBW and FZH = MB. It is not possible, then, for Sirionó to define their unilateral rule of marriage as prescribing marriage with the daughter of an *ári* (2), which is what the matrilateral cross-cousin incidentally is, and thereby with a woman of a wife-giving line; for on the father's side (which is anyway forbidden) such a woman is an *ári* herself or an *akwáni* (8) and may not therefore be married in either case; while on the mother's side she may be either *ári* again (MBW) or *yánde* (6), and only the latter may in fact be married. Similarly, the potential wife cannot be defined as the daughter of an *ámi* (1), for this person also is found on both the wife-giving and the wife-taking sides. Neither can it be said that the system prescribes marriage with a woman who is sister to an *akwanindu* (7), for this would admit the possibility of marriage with *akwáni,* whether ZHZD, a woman of the wife-taking line, or ZD, a lineally-related woman, or MBSD, who is also specifically forbidden. Another possibility would be to define the spouse as daughter of an *ári* (2) whose brother is *ámi* (1), thus distinguishing her from the FZD, whose MB is *éru* (3); but it would be odd to define a woman by reference to her MB, and especially in a society in which authority over her lies with the father.[45]

What the Sirionó system does, then, is to preclude possibilities of bilateral confusion by confining the selection of a spouse rigorously to a man's own genealogical level; and within this there is only one marriageable category of woman, viz. *yánde*. In other words, it largely disregards the terminological composition of a line in favor of one particular category. But how, in this case, is the prescribed category defined? A possible method is to say that she is the daughter of a man who

45 Holmberg, 1950, p. 49.

is *anóngge* (5) to one's *ézi* (4), this latter category denoting a singular position of which M is one specification. Given the scale of this society, this leads to the inference that the definition of *yánde* is determined mainly, it seems, by genealogical means, tracing connection from the mother through particular individuals. This genealogical emphasis is consistent with the preference for the daughter of the maternal uncle, with the place of the elementary family in social life, and with the general lack of lineal features in the society; but it is an unusual procedure in an asymmetric alliance system, it further detracts from the significance of the descent lines, and it intensifies the problem of the lineal equations.[46]

It will be easily appreciated that the examination of the Sirionó system of descent and alliance could be pressed further in a number of other respects; but this would be of a merely formal kind which would neither elicit the structural features of the system more clearly nor contribute to the present theoretical issue.

IV

The prime concern of this paper has been to establish that asymmetric alliance is practiced by the Sirionó, and thereby to give substantive confirmation to Lévi-Strauss's formal proposition that such a mode of prescriptive alliance is possible in a harmonic system with a matrilineal rule of descent. This I think I have done, and that it is thus demonstrated that there is no necessary connection between asymmetric alliance and either lineal rule of descent.

Analysis has further shown that Sirionó society is a system of a singular kind, and that it possesses a particular technical interest. There are, however, certain other features which in a comparative context make this society yet more interesting, and in conclusion I make brief reference to these.

First, we have in the Sirionó a unique example of forest nomads practicing asymmetric alliance. We are familiar enough with the variety of economic systems with which asymmetric alliance may be associated; but this is the only example of a small-scale, hunting and collecting society being organized in this way. The Sirionó thus have an added claim to a place in a typology of social systems. It has to be admitted, though, that it is difficult to conjecture why they should be organized in this way at all, i.e. what social advantages they gain from asymmetric alliance. This problem is of a piece with that of the lineal equations, but demands

46 I do not overlook (especially since I have myself studied a forest nomad society) the obvious consideration that in such very small groups the precise relationships between the component members will be generally known; but (a) the system as established possesses these formal features, and they demand examination, (b) "kinship terms are more frequently used in address than personal names or nicknames" (Holmberg, 1950, p. 54), and it is a matter for analysis to discern just how the Sirionó themselves determine the application of these terms.

a more specialized comparative examination which would take us far beyond the limits appropriate to this note.

Secondly, it is of particular interest to find such a system in South America. Prescriptive alliance is, of course, found in a fair number of societies there, but not asymmetric alliance. The characteristic form, without exception outside the Sirionó,[47] is symmetric alliance in the form of the two-section system, whether or not marked by exogamous moieties. I think that on formal grounds alone asymmetric alliance may be derived from symmetric, and in other parts of the world there are empirical reasons also to tend to this view. It would thus form an intriguing investigation, on the part of someone better versed in South American ethnography than I, to reconstruct the possible course of historical and structural development by which Sirionó society has reached its present form. The lineal terminology equations might seem to make a two-section derivation unlikely, but there do exist two-section systems with limited lineal equations (e.g. the Nambikwara of the Mato Grosso, to the north of the Sirionó; the Kuma of eastern New Guinea; possibly Pantara, in eastern Indonesia), though not of "Omaha" or "Crow" type;[48] so that the Sirionó equations, assuming they are not coeval with the asymmetric system, are not necessarily entirely inconsistent with an earlier symmetric system. A possible development might be from a two-section system via exogamous moieties and internal differentiation of lines.

Thirdly, the Sirionó example places added emphasis on the fact that in such studies as this we are dealing with a structural, and not a simply cultural or historical, issue. Asymmetric systems have already been found among peoples speaking Paleosiberian, Mon-Khmer, Tibeto-Burman, Malayo-Polynesian, Papuan, Bantu, and Californian languages, and the present analysis now adds to this list a Tupí (South American) example. So by this demonstration it becomes even more evident that the common features of social classification in these societies cannot be satisfactorily explained by reference to common culture or common historical origins.

Finally, the factor of particular structural importance in this case, in contrast with the usual type of asymmetric alliance system, is that while the Sirionó system is similarly harmonic, it is matrilineal. Rule of descent is secondary to prescription

47 It is reported that among the Araucanians marriage with the mother's brother's daughter was "an almost obligatory practice" in the recent past; but there is no secure evidence that they in fact practiced asymmetric alliance, and the terminologies recorded argue against it (Faron, 1956). Societies with matrilateral preferences do exist, of course, in South America (Murdock, 1957, pp. 685-686) but that is another matter altogether.

48 Certain general observations of mine on this issue (1960c, pp. 23-25) are marred by an analytical muddle which I am unravelling in another place. A preliminary rectification, concerning asymmetric alliance, may be found in Needham, 1961a, section III.

of marriage;[49] and it is in their asymmetric mode of alliance that such societies radically resemble each other.

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49 Cf. Dumont, 1957 for a brilliant demonstration of this point with regard to symmetric alliance in South India.

1960c *Lineal Equations in a Two-section System: a Problem in the Social Structure of Mota (Banks Islands)* (Journal, Polynesian Society, vol. 69, pp. 23-30).

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UTANG NA LOOB: A SYSTEM OF CONTRACTUAL OBLIGATION AMONG TAGALOGS[1]

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INTRODUCTION

THE REGION adjacent to and including the primate city of Manila is called *Katagalugan*—place wherein Tagalog is spoken, or land of the Tagalogs—by its inhabitants. Within this linguistic and cultural domain, serious conversations, oftentimes with strong emotional overtones, almost inevitably turn on the concept of *utang na loob*. Freely and simply translated, *utang na loob* means "debt of prime obligation." However, its full meaning in all its ramifications cannot be so simply stated, for embodied in this expression is an important system of reciprocal obligations and behavorial expectations which governs the lives of Tagalogs. The principles and mechanics of this system are by no means unique to Tagalogs but are found as well among other ethno-linguistic groups in the Philippines[2] and seem to be variations on a structural theme implicit in value organizations from Tikopia to Japan, to Vancouver Island, to Classical Greece—and not unheard of in Washington, D.C.

Tagalogs utilize this concept on a dramatically manifest level in the social functions of control, security, and integration, and the individual in Tagalog society can find in this system a series of positive and negative behavorial potentialities and choices for status mobility. Because the system operates to define the limits of socially meaningful relations among individuals and, to a large degree, determines the nature of such relations, its understanding is crucial to an understanding of bilateral social organization and some of its structural bases in the Philippines.

This paper, then, has two main purposes. First, it is an attempt to lay the foundation for further analysis and understanding of Tagalog society in particular

1 Twenty months' fieldwork in the years 1956 to 1958 were sponsored by the Philippines studies program of the Department of Anthropology at the University of Chicago under the direction of Fred Eggan and supported by a grant for field research from the Rockefeller Foundation. This period of study constitutes the initial part of a proposed extended program to investigate variations in social organization of communities within the distinctive ecological realms of the Tagalog Area: lowland rice, fishing, upland dry-farming, and coconut communities.

2 In the Bisayan region Agaton Pal has reported a similar concept *otong kabobot-on* which he translates as "debt of gratitude" (*A Philippine Barrio*, Journal of East Asiatic Studies, University of Manila, 1956, p. 468) and Frank Lynch notes the use of the phrase *utang na buot* as part of a system of alliance in the Bikol region (*Social Class in a Bikol Town*, Philippine Studies Program, University of Chicago, Research Series, no. 1, Chicago, 1959, p. 52).

and structurally similar societies in general. Secondly, and subsidiarily, this system of social usages is presented to provide a primer on social behavior among Tagalogs for the foreigner who wishes to live, work, and interact with the people of central and southern Luzon. I will restrict my description and analysis of the system to the way in which it operates among the inhabitants of one lowland rice-producing settlement in the Tagalog-speaking area of Luzon. However, many of the basic concepts and details seem to be universal in the Philippines, varying from region to region not so much in content as in form.

The presentation will be divided into two sections. In the first, I will outline the system in the abstract, as a model. In the second section, I will try to show how the concept of *utang na loob* operates specifically in the Tagalog barrio of Kapitangan as it (1) reflects an underlying belief system and sanctioning system; (2) as it is internalized by the individual; and (3), as it poses the structure and process of social organization.

POSITIVE PRINCIPLES OF OBLIGATION

Literally, there are two meanings for *utang na loob*, stemming from the third component—*loob*. *Utang* is a widespread term throughout the Philippines and Indonesia for credit, obligation, and financial indebtedness.[3] *Na* in this instance is a particle corresponding roughly to "of." *Loob* is a specific Tagalog term meaning either the inside of something (as opposed to the outside—*labas*) or personal volition. Thus, in a literal sense the phrase might indicate "a debt of the inside" or "a debt stemming from personal volition." In the present discussion the latter implication will be stressed but the reader is forewarned that the debt is in no way voluntary since it has its origin in a rigidly circumscribed system of reciprocal obligation. In the second portion of the paper, I will be dealing with the implications of the other meaning of *loob* (inside) as the system operates to define the maximal social units or in-groups among Tagalogs.

The Tagalog seldoms utters the phrase *utang na loob* in a light or flippant fashion. Its implications are too serious, especially if the reference is to a specific individual. One of the more frequent ways in which it is used is *walang utang na loob* meaning "without" *(wala) utang na loob*, usually implying that someone has acted in an extremely ungrateful fashion or has refused to honor an important obligation. Use of the phrase in this context indicates, incidentally, a serious point of social conflict between two individuals. *Mahina ang utang na loob* implies that someone's sense of duty or obligation is "weak" *(mahina)*. He has shown signs of

3 Otto Dempwolff, *Vergleichende Lautlehre des Austronesischen Wortschatzes* (3rd vol., Dietrich Reimer/Andrews and Steiner: Berlin, 1938).

stinginess or reluctance to honor an obligation. This is only slightly weaker in its critical implications than *walang utang na loob*. Another usage, *ayaw magkautang na loob,* indicates that someone "dislikes or avoids" *(ayaw)* becoming obligated to another *(magkautang na loob)*. These three expressions are among the strongest critical value judgments in Tagalog and, in fact, the first two are used as expletives. On the other hand, the finest compliment a person can be paid is to be characterized as having *magandang* (beautiful) *utang na loob* or to be, in other words, exceptionally faithful in fulfilling his obligations.

No matter how it is used, the phrase *utang na loob* reflects a "system of social sentiments"[4] of deep and strong affective nature and expressively symbolizes a whole configuration of reciprocal obligations. As a concept that is quite manifest in vocabulary and behavior, *utang na loob* provides a key to understanding structure and process in Tagalog society. It is a configuration of beliefs and values that structures and integrates social groups and at the same time provides in its breach the locus in action for social fragmentation and conflict.

There are four basic principles to be grasped in understanding the system. These are (1) the concept of the "gift" and volition, (2) the concept of acceptance, (3) the necessity of repaying the gift, and (4) manner of evaluation of need and surplus.

The Gift (*kaloob*)

Utang na loob is created in another person through an unsolicited presentation of goods or services. It should be pointed out parenthetically that such non-economic items as advice, agreement in an argument, and praise are potential prestations and, depending upon the source, may be quite valuable. The gift activates a unilateral relationship of indebtedness reversable only by means of a properly offered return gift. There are strictures on this return which will be discussed below.

Utang na loob is distinct from *utang* (simple debt) because the former results from a gift *(kaloob)* while the latter results from a loan *(pautang)* or deferred payment. *Utang* implies a direct exchange of resources in which one person borrows or asks aid from another in such a way that when repayment in kind or money is made the transaction is ended. Such a transaction might lead to *utang na loob* depending upon the context of the loan—but not necessarily. *Utang na loob* involves indebtedness stemming from an act of theoretical volition so that the item of transaction is not requested, but is offered by one person to another of his own free will (*kusang loob*—given with no obligation). In this way an increment

4 A. R. Radcliffe-Brown, *The Andaman Islanders* (Free Press: Glencoe, Ill., 1948), p. 401.

qualitatively different is added to the debt by the very voluntary aspect of the transaction. This is precisely the sort of gift Marcel Mauss has discussed in his analysis of prestations ". . . . which are in theory voluntary, disinterested and spontaneous, but are in fact obligatory and interested."[5] In the future I hope to relate the present discussion in a broader comparative treatment to what Mauss termed total prestations, such as the potlatch. The function of the fiesta complex in the Philippines is directly understandable in this light.

In summary, the first principle in the system of rules for reciprocal obligation among Tagalogs is that a theoretically voluntary and disinterested gift establishes a unilateral obligation or state of indebtedness between giver and receiver.

Acceptance (*pagtanggap*)

A second basic principle is that acceptance *(pagtanggap)* of a commodity or service by one person from another institutes a virtual contract *(utang na loob)*. That is, the acceptor has indicated by his act of acceptance that he will in the future answer demands made upon him by the donor. The donor will take the acceptance to mean that he can expect a greater or different type of return on his gift (investment) at a later time. If one does not wish to enter into such an arrangement with a particular individual he should, therefore, avoid accepting any sort of unsolicited aid from that person. Once he has accepted, he is committed to the fulfillment of the request or requests of the donor.

However, there is seldom any choice on the part of the potential recipient of a gift as to whether or not he will accept; a gift is never made to anyone with whom there is not some sort of preëxisting relationship precluding rejection *(pagtanggi)*. As will be seen later, gifts are offered and accepted only by individuals who are part of a maximal social obligation network. The limits of this maximal social grouping are set by recognition of common bonds of obligation based on consanguineal, affinal, and ritual kinship ties and it is only within this collectivity that acceptance of a gift is obligatory. If a legitimate member of a particular obligation network presents a co-member with a gift, the latter must accept the gift (and with it the implied reciprocal obligation) or, in effect, deny his own membership in the group. A person who refuses to accept a properly offered gift is said to be *walang utang na loob* (lacking a sense of obligation). He is not to be trusted since he has denied his own membership and feeling of responsibility in a system providing social security. There are, of course, varying degrees of responsibility brought about by closeness of relationship and frequency of interaction.

5 M. Mauss, *The Gift: Forms and Functions of Exchange in Archaic Societies* (Jan Cunnison, tr., Free Press: Glencoe, Ill., 1954), p. 1.

Just as the obligation to accept a gift stems from membership in a particular social grouping, so also the right to give is limited to members of that group. Rejection of a gift or voluntary aid is an extremely serious act, affecting both the giver and the potential receiver. It must be emphasized that rejection indicates either that the person doing the rejecting does not consider the offerer to be a part of his particular social group or, alternatively, that he feels there are good reasons for terminating a relationship with the offerer. The consequences of an act of rejection, i.e. shame *(hiya)*[6] and vengeance *(higanti)*, are of such weight that before offering a gift an individual will make every attempt to ascertain the probability of acceptance. He first will try to make sure that the person to whom he wishes to give a present in order to receive compensation is within his obligation network; secondly, that the individual selected is responsive and not a social misfit or outcast; and thirdly, that the recipient will be capable of repaying the gift.

Repayment (*pagbayad*)

One of the most important aspects of *utang na loob* is reflected in the proverb *ang utang na loob ay hindi mababayaran ng salapi*, literally "a debt of volition cannot be paid with money *(salapi)*." Its deeper meaning seems to be that *utang na loob* cannot be treated in the same fashion as a commercial transaction *(utang)*. It can be repaid only by means of something other than the activating gift and must involve manifestly *selfless* behavior on the part of the debtor. Since such selfless actions *ipso facto* create *utang na loob*, the relationship becomes a never-ending one involving reciprocal gift giving and a constantly alternating state of indebtedness. Further, because the gifts must be of different types, one of the main functions of the system is to regulate exchange of specialities and resources among individuals and groups.

There remains to be said something concerning solicitation of his due by the giver. A person who has "created obligation" *(ipinakautang na loob)* in another is entitled to ask goods and services of that individual. However, the debtor does not repay his debt by simply meeting these demands, but merely is complying with the terms of the contract he made when he accepted the gift. The nature or size of the gift is of little importance except that the repayment should be more valuable. Thus, the gift (or investment) of a bunch of bananas may entail reciprocation in the form of a pig, a chicken, a job on the municipal police force, a vote, etc. Ordinarily a specific gift is made with a specific return in mind so that its acceptance means that, in addition to the right of the donor to call upon the

6 For a discussion of the concept *hiya* see Robert Fox's treatment in *HRAF Handbook on the Philippines*, vol. 1, pp. 430-436.

facilities of the donee, there is realization on the part of the latter as to *what kind* of goods or services will be demanded of him.

It is possible, however, to create *utang na loob* while complying with a request. Dr Frank Lynch first pointed this out to me as one of the features of a similar system (called *utang na buot)* in the Bikol-speaking area of the Philippines. By doing *more* than is requested, one is acting voluntarily and in a very real sense making a gift.

In summary, repayment—or rather reciprocation—of the gift can be divided into two distinct categories: (1) those repayments made upon demand which can never in themselves end the debt situation, and (2) unsolicited reciprocation which is termed free-will *(kusang loob)* in nature, and is itself a gift which will reverse, or at least modify, the direction of the debt.

Need and Surplus (*kakulangan at sagana*)

The creditor does not have unlimited rights. There is a very important restriction on the requests he can make of the debtor. That is, there must be a recognized need *(kakulangan)* for whatever is being requested and the debtor must be in a position to grant it, i.e. have a recognized surplus *(sagana)*. Simply put, a "need" is something of which one does not have enough, or of which he has *less than someone else*. A "surplus" is something of which one has more than enough, or *more than someone else*. The person with a need has the right to ask from those within his social grouping who have such a surplus. The person with a recognized need will approach someone with a recognized surplus and present him with a gift (unless that person is already in his debt). If it is accepted, he will then have the right to return and ask for the surplus item which is to him a need. This kind of request, called *pahingi*, is often misunderstood by non-Tagalogs. It does not simply mean a request for a favor as it is frequently translated into English. This term explicitly covers the situation we are discussing where a person in "need" goes to someone and attempts to collect on *utang na loob*. It seems to mean "to ask for something which is needed from someone who has the obligation *and* ability to grant it." Another term *(pakiusap)* is often used when a petitioner is directing his request toward someone with whom he has no specific obligation relationship or toward whom he is a debtor.

Before closing this section on the basic principles of *utang na loob*, an important segment in the arc of obligation relationships must be inserted. When someone has an obvious need, many times he will not be helped by members of his social grouping unless he solicits that aid. This stems directly from the condi-

tion that he is part of a network of mutually reciprocal obligations in which recognition of specific rights of others is a fundamental rule. To volunteer help in a case of obvious need would create embarrassment *(hiya)* in an *utang na loob* partner *(kautang na loob)* in three ways. (1) It would publicly call attention to his needy position, thus lowering his prestige. (2) More importantly to our discussion, it would deprive him of a chance to remedy the need through his own resources, i.e. utilization of rights he has in *utang na loob,* or through being a member of a particular social group. (3) Finally, it would worsen his position by placing him in a new *utang na loob* debtorship because of the voluntary aspect of the aid. I was told many times while I was living in the barrio of Kapitangan (after a residence of six months or so) that I should not expect my neighbors to help me in situations of need *unless I asked them.* They told me that they were well aware on occasion that I needed help, but were afraid that they would put me in a shame position by volunteering it. The first few months had involved much reciprocal gift-giving and aid—on my part and on that of certain people of the barrio, specifically my immediate neighbors and their kin—so that I had become an integral part of an obligation network. Because I had been established as a member of a particular social group, any gift-giving on either side in the later stages of my stay was either aimed at the establishment of a new obligation relationship outside the group of orientation or a precursor of a particular request within it. After this was pointed out to me, I was able to understand better certain similar events involving Tagalogs only. The implications in an ongoing social situation are profound. Needs are satisfied by asking and the right to ask is secured by a presentation of something which is not solicited and not needed.

Most gifts are part of established relationships and *utang na loob* initiatory situations are rare (except that each birth is considered an initiatory situation—life is an unsolicited "gift" from the parent to the child) and in wider social relations, i.e. between persons without biological or ritual relationship, practically nonexistent. It is almost impossible for Tagalogs not related in some way to interact on other than a strictly formal level, i.e. polite conversation, since social interaction is based upon mutual understandings of obligation. Attempts to confirm an *utang na loob* relationship with a distant relative also are fraught with possible danger since there are apt to be many unknowns on both sides. The person who makes a presentation without being sure of his chances is called *walang hiya* (without shame or without fear of consequences).

Initial interaction with an American, however, often is not considered in the same light as with a stranger who is a fellow Filipino. Americans are known to be rich, generous, and in a sense gullible, so that even though they do not fully under-

stand that they are making a contract with specific obligations by accepting a gift or hospitality, in actuality they will more times than not "repay" their debt, or comply with a later request for aid. An American may be confused by sudden coolness or abandonment on the part of a Filipino acquaintance resulting from a failure to meet an obligation acquired in such a way. He has accepted a gift or help in the past and, not sensing the obligation, he has denied (however "realistically" or "politely") a request.

The peculiar position of the American in respect to the initiation of *utang na loob* points up the analytic process pursued by the individual Tagalog before he attempts to solidify an inherited, inactive reciprocal obligation relationship. Americans as a class of individuals are considered already to be indebted to all Filipinos and a part of the pan-Philippine obligatory networks—for did not the Philippines stand by the United States and individual Americans *without being asked* during the Second World War? Does not this mean that the United States and all Americans have *utang na loob* to the Philippines and all Filipinos? MacArthur's "return" was not enough—he was obligated to do that much. Therefore, Americans and Filipinos are not strangers but part of a "kinship" system. Americans, in this sense, are different from Chinese or most other foreign groups. Each American is bound by the corporate nature of his citizenship to fulfill obligations which have accrued over the years. (In the same way a Tagalog may find that he is responsible for an obligation relationship entered into by his grandfather.) In the second place, since Americans have more wealth or surplus than Filipinos they should *share* this with those to whom they owe *utang na loob*. The American is similar to the wealthy relative who, according to polite usage, must give of his surplus when asked, *but who would embarrass the poorer relative* by an unsolicited gift.

The mechanics of usury (which is illegal) in the Philippines may also turn on the principles of *utang na loob*. The usurer is, of course, outside the network of obligation of the person requesting a loan and therefore not *obliged* to help him. Thus, his loan is in a sense a *free will offering*, even though it has been requested and not volunteered. Also, as a non-relative he is taking a risk in making the loan because there is no obligation to repay. It may be that because of this, high interest rates are expected as the due of someone who has made a "loan" without any prior obligation. It is difficult to understand the persistence and wide distribution of usury without such a value base, especially in those cases where there is no legal means for collecting the interest.

This, then, is a bare outline of the implications of the Tagalog reciprocal

obligation system that is subsumed under the phrase *utang na loob*. I have presented a rather rigid model of a highly complex and subtle configuration. In the rest of this paper I would like to describe and analyze the sanctioning mechanism which makes it operative, indicate something of the way in which individuals come to know and use it, and show how it functions to determine relationships among individuals. I will restrict myself to *utang na loob* as it manifests itself in one small community.

UTANG NA LOOB IN KAPITANGAN

The barrio of Kapitangan[7] is located in the province of Bulacan on the island of Luzon some seven air miles north of Manila Bay on the labyrinthine lower reaches of the Pampanga and Angat rivers. Kapitangan is one of nine barrios forming the municipality of Paombong and is itself divided into eight further subdivisions or *sitios*. Theoretically Kapitangan is a political unit, but in actuality there were at the time of my study (1958) two distinct nuclear areas of settlement and these were independent of one another spatially, sociologically, religiously, and politically (according to law there should be one barrio elective administrative head or lieutenant—Kapitangan has two: one for each of the nuclear areas). The two settlements (called *Kapitangan One* and *Kapitangan Two* from the order in which schools were established) are separated by a square-mile area of rice paddy dotted with scattered dwellings whose inhabitants feel affinity with whichever nuclear settlement is the closer. The nature of Kapitangan as a barrio, settlement, and community will be treated elsewhere. The nuclear settlement from which this description and analysis is drawn is the eastern section of the barrio, distinguished locally as Kapitangan Two. Kapitangan One, more commonly called *Pinalagdan,* is to all intents and purposes another barrio and will not be discussed here.

The population of Kapitangan Two (hereafter referred to as Kapitangan) at the time of my study in 1956-58 was approximately 900, distributed in several clusters of houses totaling 156. The overwhelming majority of the dwellings housed one nuclear family and never more than two. The members of a particular nuclear family ordinarily belong to one of several distinct, bilaterally defined kinship networks. These groupings are characterized by a high degree of endogamy based on marriage between second or third cousins and are, to a great extent, spatially interdigitated.

7 For a brief discussion of the history of settlement and social organization in Kapitangan since 1880 see C. R. Kaut, "Process and Social Structure in a Lowland Philippine Settlement" (in *Studies in Asia: 1960*, University of Nebraska Press: Lincoln, 1960).

However, social interaction generally is organized from and occurs within each of these social collectivities. Neighboring householders are usually kin of some sort and, if not close to begin with, intense ritual kinship ties are soon established. Interaction among non-related individuals, or the groupings themselves, is restricted to formal occasions when they are thrown together in spectatorship and polite conversation. Persons who are neighbors and related only affinally or by ritual kinship may act as mediators for particular interactional events between two separate bilateral kin groups. However, communal or barrio-wide coöperation in projects cutting across the boundaries of the kinship groupings is extremely difficult to accomplish and practically never occurs. The membership of the kinship groupings is not restricted to the barrio of Kapitangan, but each is a localized segment of a separate kinship network and, as such, linked to segments of nearby barrios, more distant towns (municipalities), and provinces. Gift-giving based upon the principles of *utang na loob* is oriented in and from the bilateral kinship grouping. The boundaries and directions of one's obligation are determined by membership in a particular grouping and by the history of specific relationships within it.

For the adult, there are three basic types of socially operative relationships possible with other people both in and outside the settlement. First, there are strong obligatory relationships based upon actual or ritual kinship. These consist of ties built up through positive performance of obligatory behavior. Past experience has shown that particular kinds of behavior *can* be expected from these persons. People included in this type of relationship are of close and long association.

Next, there are strong negative relationships resulting from (1) lack of genealogical or ritual tie, (2) non-acquaintance, or (3) improper behavior (such as, failure to honor an *utang na loob* obligation). The first and second causes of a negative relationship simply bring about a situation in which no meaningful interaction can occur without the intervention of a third person related to or acquainted with the two unrelated or non-acquainted persons. Improper behavior, on the other hand, results in the creation of an actual social breach and acts of "vengeance."

Finally, there are latent or potential relationships based upon kinship that have never been activated through gift-giving. This comes about because of lack of contact (persons living in different settlements), felt-distance of relationship, and no "need" that would activate such a distant relationship. For the young child, this last category probably embraces half or more of his potential social grouping. As he grows older and extends his sphere of social contact, he will activate more

and more *utang na loob* relationships with relatives; the mutual performance in each instance establishes the beginnings of either postive *utang na loob* relationships or negative "vengeance" relationships. As he grows, then, most of his potential relationships (some of which are neutral) are made active as either positive or negative relationships and his social obligational network is in this way gradually solidified in the flesh so that he seldom has any doubt as to whom to turn for help and by whom he himself will be solicited.

Utang na loob relationships have three stages of possible development. In the first there is an initial prestation through which an obligation relationship is activated: *utang na loob* is created. Following this may come a relatively unstable phase wherein indebtedness alternates back and forth between two individuals through reciprocal giving and repayment. The third possible stage is a culmination of a long, intimate, and active obligation association: complete reciprocity of mutual support and aid so that two individuals become complementary *utang na loob* partners. In this stage, one is never exclusively in debt to the other but, rather, they are co-equally indebted *(kautang na loob)*.

At any moment in time the social stratification of a group can be seen in the particular distribution of these stages of *utang na loob* relationship among the individuals constituting the group. Thus, there are three types of stratification positions possible. First, there are definite superordinate-subordinate relationships which are in a very real sense *new* and are amenable to change at a later point in the history of active social interaction between individuals or through the arrival of a new generation. For example, succeeding generations of an original tenant-landlord relationship progressively come to have less of a unilateral relationship than the first (or initiating) generation. The *mayari-maysaka* (owner of land—holder of land) distinction becomes a less unilaterally emphasized one and emphasis is placed on mutual obligations between owner and tenant, symbolized linguistically by one term applied to both: *kasama* (companion).

The second type of relationship is that in which the debt is shifting back and forth from one individual to another through separate acts of "generosity" on the part of both persons; making superordination alternate between them. This relationship is growing out of the initial unilateral stage and will result in the third type of positional *utang na loob* relation, i.e. in which *mutual* and equal obligation is established unless one of them fails at some point. Because each individual is involved in all three of these with different persons at the same time he will be subordinate to some, superordinate to some, alternatively subordinate and superordinate to others, and equal to still others. By using these possibilities as pigeon-

holes for the various social, religious, political, and economic relationships extant among individuals, the social organization of a Tagalog community can be described. In Nadel's words ". . . the relational or correlative character of roles will tend to isolate the respective relationships from one another, in the manner of enclaves. The result . . . far from being a total one, must remain fragmentary. In a word, it seems impossible to speak of a social structure in the singular."[8]

At all points the bilateral kinship system of Kapitangan is characterized by such contingency based upon individuals acting as members of social organizational dyads. The basis of interaction is bilateral kinship (real or imputed), but the activation of a particular relationship depends upon residence, need and ability, sense of obligation, and particular gift exchanges. Solidification of kinship relationship is dependent upon continued reciprocity. Without this, a biologically and sociologically defined kinship relationship will degenerate and possibly become sociologically a "non-kinship" relationship.

At all levels, then, there are three possibilities for operational kinship based upon the history of obligatory interaction: positive, negative, and untried (or latent). This is true even in the nuclear family, although relationships as close as these are ordinarily either positive or negative, and seldom untried. Degree of affection (or lack of it) between a parent and each of his children will to a large extent depend upon differences among the offspring in proved responsiveness in obligation situations. Siblings may become either partners or enemies for the same reasons. With cousins and more distant relationships in general, it is obvious that performance of obligatory behavior will be the prime determining factor in the strength and nature of relationship between individuals.

The widespread bilateral kinship groupings represented by specific collectivities in Kapitangan seem to be preponderantly endogamous (second cousins being preferred marriage partners) so that they offer a relatively finite number of kinsmen to all within them and have recognized boundaries. Within these social groupings specific manifest webs of obligation are spun by individuals playing the game of *utang na loob*. Structurally the biological and ritual kinship base provides for maximal-group spheres of interest, coöperation, and continuity of control over particular resources. In terms of the individuals involved, the collectivity of birth orients the person toward a particular aggregate of resources and the sum of his acts of manifest *utang na loob* give him a specific status within the collectivity.

The Tagalog kindred *(angkan)* consists of all the relatives of an individual and includes the personal kindreds of both the mother and father. Thus, there are

8 S. Nadel, *The Theory of Social Structure* (Free Press: Glencoe, Ill., 1957), p. 97.

three distinct kindreds intersecting in a nuclear family—father's, mother's, and children's—but all are *usually* part of the same larger bilateral kinship grouping. For the individual the kindred is made up of relatives of three sorts: all relatives (genealogical or ritual) who are potential *utang na loob* partners; some of these who are actual *utang na loob* partners; and others who, though a part of the kindred in structural relationship, have become disassociated sociologically because of their improper behavior.

The underlying sanctions for the social usages of *utang na loob* have their bases in a conviction that the particular dangers of the conceptual world of the people of Kapitangan are real. In the realm of the natural and supernatural, dangers are lodged in the unknown and unseen. In the social realm they lie in the world outside of the kinship network. Both of these pose their opposites—the known environment and the circle of kin—which are realms of safety and security. The unknown geographical realm is less dangerous if one has relatives living in it able to act as companions, at least during the initial stages of a visit. The known environment becomes dangerous if one has no relatives willing to act as supporters, helpers, and guards. In Kapitangan a person lives not too far from non-kin who have no obligations to help him and will in fact avail themselves of his property if it is not guarded. Part of the obligation between relatives is to protect one another's property from non-relatives. Improper behavior in *utang na loob* relationships will bring abandonment in this regard as one of its important consequences. Still another important consequence is the loss of resources available only through other people. If a person is cut off from his relatives, he has no one to turn to in time of need.

The unknown and the unseen are safe only if one has a powerful companion who is also unseen. Thus, relationships with the supernatural are patterned after the social, and vows *(panata)* can be seen as gifts given to God and patron saints in return for safety in the face of the unknown or in fulfillment of a request from the supernatural.

From the time a child first begins to learn the language of his associates he is taught by older persons that the world of nature and society is full of particular kinds of dangers and that to be secure it is best to remain within the boundaries of the protective family. As a baby his first understandings involve dangers of which there are many—steep stairways, open charcoal fires, dogs, readily available sharp knives, etc. As a small child, he is lectured about demons that prey upon humans when they are alone, malignant spirits of the dead, and a tremendous variety of unseen dangers. Some of these are established in the flesh when older

persons warn that a particular old man, stranger, *Bumbay* (Hindu—bearded person), or *Kano* (White person), passing nearby will snatch him away from the safety of the family if he does not behave.

Over the years he learns that the world of man and nature is hostile to the individual. Only as he is able to remain a part of a strong in-group will he be sure of relative comfort and safety. Traditions taught him by others and his own continuing experience prove to him that this is so. Seldom, therefore, will he risk being cut off from the social group into which he is born and of which over the years he becomes a firmly established part. A failure to perform the expected behavior of the *utang na loob* system would cause just that to occur.

Utang na loob is built on a set of firm explicit social expectations. Failure to meet any of these leads to social stress or cleavage of varying degree. No matter how inadvertent, failure on the part of the person of whom particular behavior is expected can generate ill will, humiliation, shame, and, most importantly, desire for retaliation on the part of the one expecting. Further, it can have effects of wider implication. Breakdown at any point threatens more than the immediate relationship between two individuals; it threatens the functioning of a whole network of relationships.

Refusal is rare on an overt level because to refuse is to insult and insults are serious matters. Rather, a verbal commitment is made which the promiser has no intention of honoring as he feels that the person (usually a stranger or foreigner) has no real right to ask for any such thing. In this way he effectively refuses, but since he does not want to precipitate conflict or cause shame, he softens or postpones the effects of the refusal by placing it on delayed behavioral level while seeming not to refuse on a verbal level—he makes a contract he does not intend to honor. In such an instance, social cleavage results or is reinforced—just as surely as if a vocal face-to-face refusal had been uttered—but not in a violent abrupt manner. The petitioner will soon know that he has been refused—that the other person does not feel any sense of obligation toward him—that his request was based upon a faulty analysis of the situation.

Refusal, in a sense, also includes *avoidance* on the part of an individual of situations in which inconvenient expected behavior might be called for. This simply means that a person will disappear when he sees someone approaching to whom he owes *utang na loob* but does not wish to accommodate; or, he may hide some surplus item from the community so that his "creditors" who may be in need of this item will not know about it, and hence will not be attracted by it to ask for their share.

The strength and dimensions of the social network into which the individual fits are directly dependent upon those variations in reaction to social expectation. Manifest expected behavior stems from core belief about obligation but its triggering is dependent upon correct analyses, on both sides, of the limits of expectation, and what will be the results of acceptance or refusal. Acceptance of obligation followed by performance of expected behavior is necessary for continual solidification of social relationships. The history of such actions in the life of any individual should tell almost the complete story of his meaningful social relations in a community, and the social aggregates that they define yield the social organization.

The greatest strength of *utang na loob* is manifested in the parent-child relationship. Life is an unsolicited gift and thus the basis of a debt which cannot be repaid. In later life the child must obey and care for his parents who have given him his very existence. Except in rare instances, there will remain throughout the life of the parent a unilateral debt relationship. It should be mentioned that having children is thought of as a part of one's payment of his debt to his own and his spouse's parents, but this does not detract from the obligation of the newborn to its parents.

Obligation toward the parent cannot be ignored or dissolved without extreme conflict. The child who tries to avoid an obligation relationship (being ungrateful or *walang utang na loob*) toward a parent will be strongly censured by the parent involved and sanctions will be brought to bear on him by other relatives as well. Parents expect that their children will support them in their old age. A failure at any point in the relationship does not bode well for the future. Such a failure is also a bad example for children of other parents and so threatens the security of all parents.

Birth, then, is in itself a gift from the parents which initiates *utang na loob* toward them. Further, subsequent care given by the mother and father to the child generates a specific kind of obligation on his part in later life. Older siblings or older children of the household and neighborhood who take charge of the child when he is old enough to move about under his own power (or is replaced in the mother's attention by another baby) also cement relationships of obligation which will be of prime importance in later life. Birth and babyhood represent a period during which the child is "given" a particular set of close relatives. (One might speak of the gift of "uncleness.") Thus, a child is born into an already existing field of obligation relationships. The parents themselves have inherited and (in a highly contingent situation) cemented, weakened, or

destroyed certain relationships forming a particular reciprocal obligation network. These social relational potentialities are inherited by the child and form the basis for his own developing network of personal social relationships. Each inherited relationship is an *utang na loob* potentiality that may or may not be solidified as the years go by.

Siblings, though expected to support one another throughout their lives, do not necessarily have the prime responsibility for care of one another in ill health or old age that they do for their parents. Each individual should be taken care of by his own respective children. Whereas a parent has only a limited number of children, all of whom are in his debt and responsible for his welfare, there are normally many individuals related to one another in sibling or sibling-like fashion. Failure on the part of a particular sibling, though strongly censurable, is not so deeply important as the failure of an offspring.

The actual strength of the sibling tie is to large extent dependent upon the relationship between two siblings through time. Distant cousins can be treated as siblings and are potentially strong *utang na loob* partners. They may become more important to one another than real siblings if they are neighbors, relatives by marriage, or for some reason engage in intensive social interaction. In fact, interaction may be the sole determinant for strength of obligation beyond relationship. Thus even within the nuclear family, strength of obligation will be based upon performance or non-performance of *utang na loob* behavior.

This situation seems to be characteristic of Tagalog social organization at large. The total ideal expectation pattern symbolized by *utang na loob* relationships presents guides which may or may not be followed. Actual performance of the behavior prescribed strengthens and creates, or, in the breach, dissolves bonds of obligation. And obligation is a necessary pre-condition for social interaction.

A final point that needs to be made concerns the effects upon the particular status and influence of an individual in respect to his social group. Not all individuals are equally capable of reciprocating and the number and intensity of contractual obligations will depend to a large extent on skills and surpluses held by the individual. If he has an unusual skill in great demand (such as being an exceptionally talented carpenter, a *herbolario,* or midwife) his performances of service will establish or solidify for him a position in *many* reciprocal relationships. If, because of a peculiar circumstance, such as being an only child, he has available to him surplus land or rice, he will be called upon frequently for help by persons in his obligation network and in this way will become a power figure *(malaking tao)*. If his behavior in an obligation situation is not positive, he becomes known

as a stingy person *(maramot)* and becomes ineffective in social power and prestige even though he may be economically powerful.

The average individual born into a sibling group neither poor nor rich will have a modicum of security but will not be able to build up much of a surplus and through it high status. The continuing requests of his fellow obligation partners will constantly keep any "surplus" he might have flowing into a general welfare fund, thus preventing any real increase in capital. If he is willing to leave the community and go to Manila, the United States, or any place where daily calls upon his resources by *utang na loob* partners will be limited, he may build up a surplus, and this, upon his return, will enable him to "get ahead in the game."

The individual born into a poor family will be constantly in debt, rather than simply "keeping even" like the average person. He will be dependent upon other members of his obligation network throughout his life—always in a subordinate relation in the *utang na loob* system—because (unless he has some special skill) his produce almost always will be dissipated through repayment of debts.

The present paper has begun a discussion of one important system of prescribed, explicit rules for behavior among the Tagalogs of Luzon. A model of the system was outlined in a highly abstract fashion and underlying assumptions pointed out. Further, some of the processes of enculturation were mentioned and some suggestions made as to social structural implications.

It is an hypothesis of this paper that *utang na loob* in all of its ramifications is a fundamental tool of the highly segmented Tagalog society. Behavior, shaped by this system of contractual obligation, defines relationships between individuals and provides the means for organizing these into a hierarchy of relationships for social action and interaction. It provides the frame of reference from which the individual can determine his behavior in each social situation and establishes a network of relationships which can be manipulated in each crisis facing the individual or the group to which he belongs.

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SHARK TEETH, STINGRAY SPINES, AND SHARK FISHING IN ANCIENT MEXICO AND CENTRAL AMERICA*

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ALTHOUGH shark teeth have been found in the course of archaeological excavations in North America (Hopewell mounds), Mexico, Guatemala, Costa Rica, and Panama, there have been few attempts to explain their significance, function, and the means by which they were obtained in pre-Columbian times. Only rarely has there been an attempt to identify the species of shark and to indicate whether it was of an Atlantic or Pacific origin.

In Mexico and Central America shark teeth have been reported from nine archaeological sites (see Fig. 1 and Table 1):

Mexico:

1. Las Flores, Tampico, (Vera Cruz)[1]
2. Cerro de las Mesas (Vera Cruz)[2]
3. La Venta (Vera Cruz)[3]
4. Mayapan (Yucatan)[4]
5. Palenque (Chiapas)[5]

Guatemala:

6. Piedras Negras (Peten)[6]
7. Nebaj (Quiche)[7]

Costa Rica:

8. Divala, Chiriqui[8]

Panama:

9. Sitio Conte, Coclé[9]

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1 Ekholm, 1944, pp. 389-390, 486, fig. 53*c'*.

2 Drucker, 1943, pp. 12-13.

3 Stirling and Stirling, 1942, pp. 641-642, and pl. 1; Drucker, 1952, pp. 26, 162, 163, 169, 196; Drucker, Heizer, and Squier, 1959, p. 272.

4 Pollock and Ray, 1957, pp. 651-652.

5 Ruz, 1958, p. 79, fig. 4, pl. 18; and pp. 88, 208, 247, figs. 11, 13-14, pls. 23, 37, 68.

6 Coe, 1959, p. 63, fig. 57*g*, and fig. 63*b*, 3.

7 Smith and Kidder, 1951, p. 54. fig. 42, no. 4, and fig. 69*d*.

8 MacCurdy, 1911, p. 43, fig. 5.

9 Lothrop, 1937, p. 22, 99, 156, 197, figs. 32-35, 129*g*, *h*, 132*a*, and 190.

FIG. 1. Distributional map of pre-Columbian shark-teeth and stingray spine finds in Mexico and Central America. (Line drawing by Leland Tishler)

IDENTIFICATION

The various shark teeth found at the nine archaelogical sites have been identified to three living and one fossil species. The fact that in the majority of cases the shark teeth were not identified in the original publication necessitated special inquiries on the part of the author. Unfortunately, many of the original specimens had been since misplaced with the result that not all the shark teeth could be identified.

1. Las Flores, Tampico: 14 small shark teeth. According to Dr Bobb Schaeffer, Curator of Vertebrate Paleontology at the American Museum of Natural History in New York, it "can be assigned to *Carcharinus sp.* without much doubt"[10] (see Fig. 4, Plate 1).
2. Cerro de las Mesas: Several unidentified teeth. Since they were never illustrated and their present whereabouts never mentioned, they could not be identified.[11]

10 Schaeffer, personal communication, 1960.
11 Stirling, personal communication, 1960.

3. La Venta: 1 shark tooth. This tooth was difficult to identify due to the small size of the photograph. The whereabouts of the original is not known but according to William Dickinson, Curator of Fishes at the Milwaukee Public Museum, it is probably that of the Great White Shark *(Carcharodon carcharias)*.
4. Mayapan: 5 shark teeth. They have been examined by Dr Clayton E. Ray of the Museum of Comparative Zoology at Harvard. According to him, three teeth are from the Tiger or Leopard Shark *(Galeocerdo arcticus)*, one is from a Great White Shark, and one could not be identified as to species.[12]
5. Palenque: 4 shark teeth. According to Dr Roberto Llamas, Director of the Biological Institute in Mexico City, three of the teeth can be assigned to that of a tertiary fossil shark *(Carcharodon megalodon)*, while the fourth might have come from the Cub Shark *(Carcharinus lamia)*.[13]
6. Piedras Negras: 3 shark teeth. One has been identified by Dickinson[14] as that of a Great White Shark. According to Coe, the University Museum of Pennsylvania Field Catalogue lists a questionable shark tooth from Burial 2.[15] This tooth, however, was not illustrated and could not be located for reëxamination. The third tooth, listed as missing by Coe,[16] was located by the author in the Guatemalan National Museum (lot X-72) and is reproduced here as Figure 2A-1. It was first identified by Mr Roberto Dorion in Guatemala City as an upper jaw tooth, left side no. 6 or 7 of the Great White Shark. This identification has since been confirmed by Dickinson.
7. Nebaj: 54 shark teeth. These teeth have been identified as those of a Cub Shark.[17]
8. Divala: 1 shark tooth. Original specimen lost but Dickinson has assigned this tooth, on the basis of a drawing, to the Great White Shark (see footnote 8).
9. Sitio Conte, Coclé: 3 fossil shark teeth and numerous recent shark teeth. Professor Glover M. Allen of Harvard University has identified the fossil teeth as those of the *Carcharodon megalodon*. The recent shark teeth have been tentatively identified by Dickinson on the basis of photographs to Tiger Sharks with a possible intermixture of Cub Shark teeth (see footnote 9).

The same inquiries also disclosed an error. Several teeth found during archaeological excavations at Holmul, Peten, Guatemala (Catalog no. C-5618) in Group

12 Pollock, personal communication, 1960.
13 Ruz, personal communication, 1960.
14 Based on an illustration by Coe, 1959, fig. 57*g*.
15 Coe, 1959, fig. 63*b*, 3.
16 *Idem*, 1959, p. 63.
17 Smith and Kidder, 1959, p. 54.

2, Building B, Room 2, were reported by Merwin and Vaillant as shark teeth.[18] They were reëxamined by Dr Clayton E. Ray and identified as Gray Fox teeth *(Urocyon cinereoargenteus)*.[19]

The three shark varieties represented by the archaeological shark teeth finds—Great White Shark, Cub Shark, and Tiger Shark—are well-known predators and scavengers. Although they are found more frequently in the tropical waters of the Atlantic, the Great White Shark and the Tiger Shark are also known to frequent the Pacific Ocean and the waters of Australia and New Zealand. The Cub Shark grows to a length of ten feet, the Tiger Shark ranges between 15 and 20 feet in length, and the Great White Shark may reach 40 feet. Adult specimens of the latter species range in weight between 800 and 2000 pounds (see Fig. 2).

METHOD OF SHARK FISHING

Judging by the good condition and relative abundance of these archaeological shark teeth finds, one must assume that the teeth were extracted directly from the jaws of captured sharks. Any teeth discarded naturally by the shark during its lifetime drop to the bottom of the sea. Occasionally sharks attack native dugouts and while it is possible that teeth could be retrieved from the bite mark on the boat, it is usually the tip of the tooth that breaks off rather than the whole tooth (see Fig. 3, Plate 1).

The selachian or shark-like fishes breathe by gill sacs or pouches and possess no air bladder. The result is that a dead shark sinks to the ocean bottom. Only if it dies stranded in shallow water close inshore is there a chance of retrieving it. There are recorded cases of Cub and White Sharks attacking swimmers at river mouths but both are more inclined to be pelagic.

Assuming that the sharks were captured alive in pre-Columbian times, the question arises as to how they were caught and what type of fishing gear was necessary to catch them. Unfortunately, the archaeological picture is practically blank along these lines. There are no archaeological finds or records of harpoons, fishhooks, or any other fishing implements from the Atlantic coast of Mexico. Our only clue comes from an early sixteenth century record concerning Maya fishing near Cozumel Island, Yucatan. Peter Martyr, describing the 1518 exploratory voyage of Juan de Grijalva in his *De Orbe Novo* (first printed in 1521), writes: "Off the coast of Yucatan and well on the way from the island of Cozumel, the Spaniards encountered a canoe filled with fishermen. There were nine of them,

18 Merwin and Vaillant, 1932, pl. 36g.
19 Personal communication, 1960.

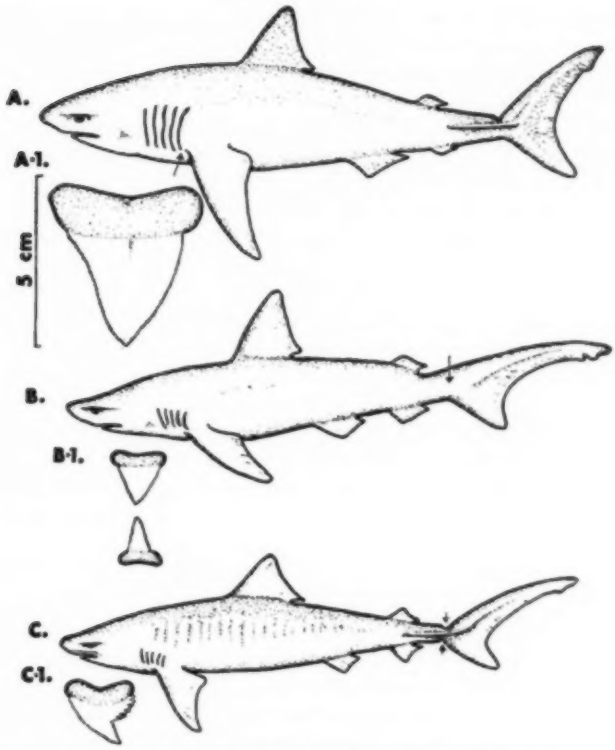

FIG. 2 Sharks referred to in this article: (Line drawings by William Dickinson)

A. Man-eater, or Great White Shark *(Carcharodon carcharias)*. Maximum length: 40 feet. All warm seas.

A-1. Upper jaw left side tooth no. 6 or 7 of Great White Shark. H: 5 cm (cf. MacCurdy, 1911, fig. 51; Stirling and Stirling, 1942, fig. opposite p. 648; and Coe, 1957, fig. 57*g*, Guatemalan Museum Cat. no. X-72, 392-210G from Piedras Negras, Guatemala.

B. Cub Shark *(Carcharinus lamia)*. Maximum length: 10 feet. Tropical Atlantic Ocean waters.

B-1. Upper and lower jaw teeth of the Cub Shark. × ½. (cf. Lothrop, 1937, fig. 129*g*; Smith and Kidder, 1951, fig. 69*d*.

C. Tiger or Leopard Shark *(Galeocerdo arcticus)*. Maximum length: 15 to 20 feet. All tropical seas.

C-1. Upper jaw tooth of the Tiger Shark. × ½. (cf. Lothrop, 1937, fig. 129*h*).

and they fished with golden hooks."[20] According to Saville the same Juan de Grijalva later obtained by barter, among other gold objects, twenty golden fishhooks from the Indians of Potonchan, near San Juan de Ulua (today's Vera Cruz), Mexico.[21]

Lothrop illustrates a golden fishhook from Veraguas, Panama, a possible trade piece.[22] He also cites a 1502 report by Columbus' son who observed various fishing activities among the people of Veraguas, notably the use of hooks made of tortoise shell and the use of drag and dip nets. Fishhooks of gold were also known to be used on the coast of Columbia and Ecuador in pre-Columbian times.[23] If harpoons were used by the pre-Columbian native fishermen, they could very easily have been a fire-hardened bamboo type. However, a harpoon would have to be thrown with great strength to penetrate the extremely tough hide of a shark. A dainty hook-type arrangement would also have little chance of success because of the ease with which sharks break fish lines without a metal or chain leader. There is the possibility, of course, that the sharks swallowed the bait whole. Once the bait is in the stomach, the shark is very easily dominated. The ensuing pain and discomfort distracts it so that, with a steady pull, it can be brought alongside the canoe and clubbed to death with a mallet. This technique is of considerable antiquity and has been employed widely in the seas near Scandinavia, China, India, and Africa, even in modern times.

An interesting late nineteenth century account of Maya shark fishing by Edward Herbert Thompson, pioneer American archaeologist and Consul of Yucatan may shed some light on the pre-Columbian picture.[24] Some years after his arrival in Yucatan in 1885 (no exact date is given), Thompson spent a few days at the Maya fishing village of Chelem near the port of Progreso. While there he was invited to go on a fishing trip with two natives, called Nabté and Ek, who originally came to Chelem from the region of Cape Catoche in Yucatan. Setting out about four o'clock in the morning, the three pushed off for the open sea in a small dugout canoe armed only with one big oar and with hooks which "looked as if they might have been made from car couplings," and with "swivel chains, attached first to the hooks and then to long coiled ropes, which might easily have once been fastened to coupling pins." "A lance and two long objects like overgrown croquet mallets with heads of hard and heavy wood" completed the inven-

20 Peter Martyr in Saville, 1920, p. 19.
21 *Idem*, pp. 15-16.
22 Lothrop, 1950, fig. 6, p. 5.
23 Saville, 1920, p. 20.
24 E. H. Thompson, 1932, Chapter IV, pp. 28-34.

tory of their fishing gear. Looking over this arsenal, Thompson became suspicious that they were after some unusually large fish. The following description of the shark hunt is taken directly from Thompson's book,[25] but the italics are my own.

"Look here, Nabté, what are you going to fish for today?" I asked, with somewhat affected carelessness. "Sharks, white man, sharks; the big ones that *we catch for their livers*. You came over to our place once and watched us trying them out for *oil*, huh?" And so I had. I now remembered having seen the big earthen pots and their seething contents, but the fact had not come home to me until I saw Nabté and his companion close to me in the canoe, and I realized that this was a small craft in which to hunt such big game. *A black triangular fin* that to me, sitting low in the canoe, loomed as large as the sail, was slowly circling at a distance from us. Nabté at once stood up and *threw a part of a tarpon toward it*. At the splash the dark triangle turned quickly and came toward us. A second splash and Ek had thrown *another large piece of fish, this time with one of those immense hooks embedded in it, while Nabté clutched the rope fish line*. The fin sank out of sight smoothly, without a ripple, and the canoe was twitched around so suddenly that it seemed to me my body had turned halfway round while my head was yet fixed where it was when I first saw the approaching fin. My neck ached from the shock, but I had other things to occupy my attention. The little canoe danced like a cork on troubled waters, responding lightly to jerking pulls that would have been dangerous to a clumsier, heavier craft, but even so, we were hurled and tossed and twirled about until my back was numb and my neck felt as if it were on the point of dislocation. The events of that day made me lose all respect for bucking broncos and man-eating sharks for, although the sharks discounted all record-bucking broncos, these two Cape Catoche fishermen, with their impassive chocolate faces, managed them as if they were salmon, bluefish, or even trout. When the huge creatures, longer than the canoe that carried us, were whirling, darting, and raging their worst, these fishermen were calmly discussing the locusts that were then devastating the growing corn crop. And then, when it seemed good to them, *they quietly drew the canoe up to the maddened pirate of the seas by a hand-over-hand haul on the line*, and Nabté stood up with one of the long-handled mallets. Balancing himself like an acrobat, he gave several *quick, heavy blows at a certain place on the shark's head*. The *slate-colored* monster gave one agonized convulsion that made the canoe rock until it seemed as if it must turn over and spill us out; and then it stiffened, while tremulous thrills fluttered its thick fins. With almost incredible quickness and dexterity, the *two men ripped open the livid upturned belly and with a large iron hook tore the liver out of the body and threw it into the canoe*. Then, taking the *hook out of the mouth*, by a single twist they pushed the still quivering body away from the craft; and, while I watched its huge outlines gradually become indistinct as it sank into the depths, they prepared for the next event. *"Sharks never float when they are killed,"* said Nabté; *"they sink like a piece of rock." Seven monsters yielded up their lives and livers* on that fishing trip and then, with full fares and deeply laden canoe, we turned homeward.

25 *Idem*, pp. 32-34.

It is hard to believe that the shark catch witnessed by Thompson was an isolated instance. Thompson, himself, mentioned having witnessed the boiling of shark liver in big earthen pots, for its oil content. Whether this custom of shark fishing still exists in Yucatan is unfortunately not known. Certainly the present accounts are silent about it. It may have died out after the 1930's, when commercial oils were introduced in quantity to Mexico and Yucatan. However, it should not be overlooked that two fishermen, armed with primitive fishing gear and wooden mallets, were able to catch with ease in a matter of a few hours, seven sharks longer than their own canoe. The feat suggests a well integrated and probably age-old tradition of shark fishing. Thompson is silent about the shark species they caught, but judging by the color (black fins, slate color) and size of their catch, they could easily have been Cub Sharks.

NUTRITIONAL SIGNIFICANCE OF SHARK FISHING

It may be assumed that the pre-Columbian Maya fishermen of Yucatan hunted sharks not only for their teeth, but also (or even primarily) for their livers and their meat.

In addition to the reference by Thompson, John Lloyd Stephens, in his book *Incidents of Travel in Central America, Chiapas and Yucatan*,[26] describes a shark hunt from shipboard. He goes so far as to state by hearsay that in Campeche, shark meat was "regularly in the markets and eaten by all classes."

The liver of some sharks, especially that of the Cub Shark, contains a large quantity of oil (16 percent by weight). Shark liver is well known for its very high nutritive value, for its iodine, and for its high fat-soluble vitamin content. If it formed a regular part of the diet of the pre-Columbian and nineteenth century Yucatan Mayas, we can assume that it must have played an important role in their nutritional status. In a personal communication, dated June 1, 1960, Dr Nevin S. Scrimshaw (Director of the Institute of Nutrition of Central America and Panama, in Guatemala City), noted expert on present day Maya Indian nutrition, informed the writer: "There is not the slightest question but that con-

FIG. 3 Interior view of the jaw of the Cub Shark, showing teeth pattern (25 by 25 cm) (*Carcharinus lamia*). Milwaukee Public Museum collection.

FIG. 4 13 Shark teeth (*Carcharinus* sp.). Approx. natural size. Fourteen were found as offerings in Child Burial no. 14, associated with shells, copper, etc. at Las Flores, Tampico (Vera Cruz), Mexico. Photo by American Museum of Natural History, New York.

FIG. 5 Fossil shark teeth (*Carcharodon megalodon*) and Cub Shark tooth (*Carcharinus lamia*). Found as an offering, deposited in a stone box and vase, at Palenque (Chiapas), Mexico, in the sanctuary of Temple V (Ruz, 1958, p. 247, fig. 13, and pl. 37,*b*,*c*). Photo by Ruz.

26 Stephens, 1841 edition, vol. 2, p. 462.

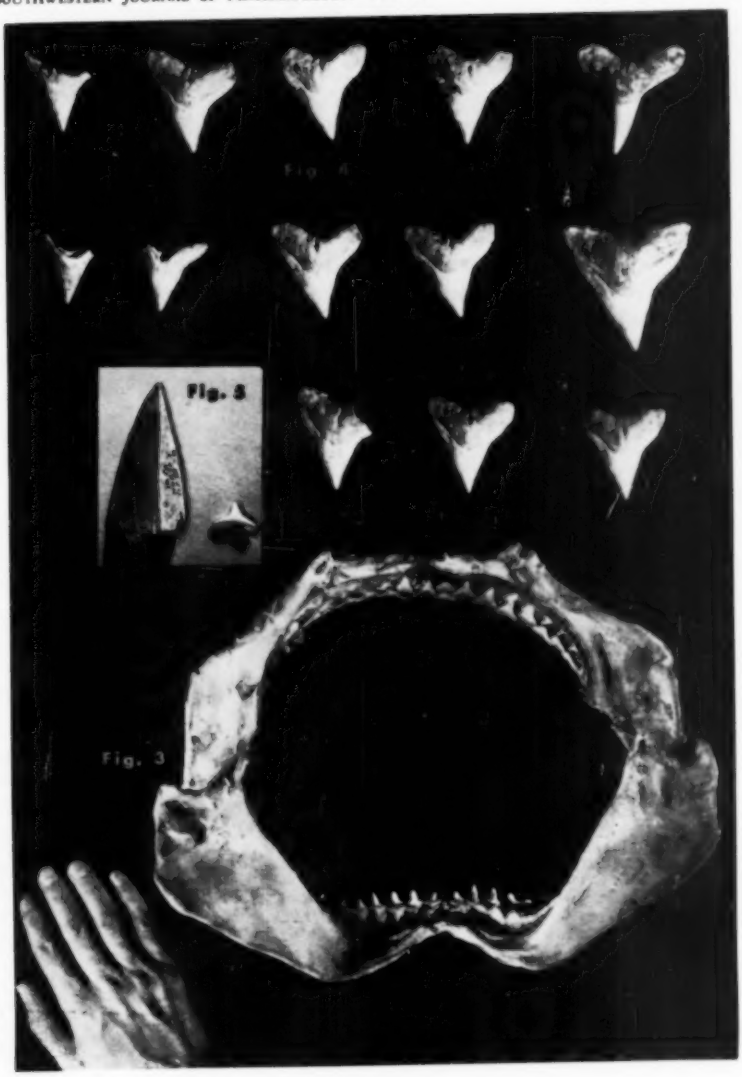
Fig. 4
Fig. 5
Fig. 3

sumption of shark's liver would be a very rich source of Vitamin D in the diet and would also make a significant contribution to the protein and B-complex content of a diet which otherwise consists primarily of corn and beans. Indeed, such a practice could well make the difference between good nutrition and poor nutrition for a population group, even if it were only a bi-weekly occurrence." In my opinion it is very likely that the consumption of shark meat and oil rich shark liver in pre-Columbian times may have helped prevent such presently known Maya health and nutritional diseases and protein deficiencies as pellagra, rickets, improper metabolism, and anemia. It may even have affected growth factors in general.[27] It is doubly regrettable, therefore, that the Spanish conquistadores, historians, and modern ethnologists have failed to observe or record instances when shark meat and liver (or oil) was consumed by Maya or Mexican natives.

ARCHAEOLOGICAL SIGNIFICANCE OF SHARK TEETH

There seems to be a basic difference in the utilization of shark teeth between the pre-Columbian Maya and Mexican area and that of Panama and Costa Rica.

Most of the shark teeth reported from Maya and Mexican sites were not perforated and were found either as burial offerings,[28] or as contents of offering vases and prehistoric votive caches, usually associated with other objects of a marine nature, such as sea shells, coral, sand dollars, and stingray spines.[29] This fact suggests their primarily ceremonial or votive nature. Only at one site, Nebaj, were they perforated (each tooth having two slightly conical holes) and used to adorn some sort of a headband.[30]

On the other hand, with the exception of some fossil specimens, all of the shark teeth found in Panama and Costa Rica were perforated (each tooth having one conical hole) and apparently had some definite utilitarian value. They were reportedly used as pendants for necklaces and bracelets at Sitio Conte, Coclé, Panama[31] and at Divala, Chiriqui in Costa Rica.[32]

It has also been suggested that, at least in Panama, some of the perforated

27 See Shattuck, 1938, p. 55.

28 Las Flores: in burial 14; La Venta: in the basalt columnar tomb, Monument 7; Mayapan: burial cist No. 2; Piedras Negras: in Burial 2; Nebaj: in Mound 2, Tomb 1.

29 Cerro de las Mesas: in Trench 34 (Drucker, 1943, pp. 12-13); Palenque: in caches in the Temple of the Cross; Piedras Negras: one tooth in Cache 0-13-37 (Coe, 1959, fig. 57*g*); and another illustrated here as Figure 2A-1 from one of the Structure 0-13 caches.

30 A total of 54 Cub Shark teeth in three parallel rows, the intervening spaces filled with rows of *Spondylus* shell spangles, were sewed in an overlapping shingled order to a backing presumably made of hide. This remarkable assemblage was found behind the head of Skeleton B, in Tomb 1, Mound 2 (Smith and Kidder, 1951, p. 54, fig. 42, no. 4, fig. 69*d*.

31 Lothrop, 1937, figs. 129*g*, *h*, 132*a*.

32 MacCurdy, 1911, fig. 5.

shark teeth may even have been used for weapons.[33] Like the sharp-edged stingray spines, they were probably attached to the shaft of heavy pikes and arrows. Weapons of this type were described by Gaspar de Espinosa who saw them used by natives in the Gulf of Chiriqui, Panama, during his punitive expedition to Coiba Island in 1516. He states: "They had pikes and lances fashioned like pikes, as long and thick as those used by the Germans, studded for a distance of half a yard from the tip with the teeth of shark and other fish."[34]

The only definitely ceremonial offering in Panama consisted of three unperforated red-and-black painted fossil teeth of the extinct Giant Shark *(Carcharodon megalodon)* which, as in medieval Europe, may have been believed by the natives to contain magical properties.[35] They were found in the form of a votive deposit on the floor of Grave 26, at Sitio Conte, Coclé, associated with an incense burner, stone ear rods, large and small stone celts, and natural stone concretions.

Based on the dating of the associated burial and cache contents, shark teeth were used sparingly as votive offerings in the Mexican and Maya area throughout all archaeological periods. The shark tooth in the columnar tomb (Monument 7) at La Venta dates to the latter part of the Pre-Classic period (Construction phase IV, approximately 450-325 BC).[36] The shark teeth and shell-covered head band at Nebaj is of Early Classic date (300-600 AD). The burials and caches containing shark teeth at Cerro de las Mesas, Palenque, and Piedras Negras are from the Late Classic period (600-900 AD), while the shark teeth found at Las Flores and Mayapan are from the Early and Late Post-Classic period respectively (1100-1500 AD).

On the other hand, the numerically more abundant shark teeth in Panama and Costa Rica were utilized primarily for non-votive, non-ceremonial purposes and date only from shortly before the Spanish Conquest (approximately 1300-1400 AD).

SHARK TEETH AND STINGRAY SPINES

On examination of the literature, the author believes that there may be some hitherto unrecognized relationship between the use of the serrated edged shark teeth and the dorsal spines of the stingray. Stingray spines have been reported from thirteen archaeological sites in Mexico and Central America[37] (see Fig. 1

33 Lothrop, 1957, pp. 21-22, 99, fig. 32.

34 *Idem*, p. 14.

35 Lothrop, 1937, p. 156.

36 Drucker, Heizer, and Squier, 1959, pp. 266-267.

37 Stingray spine finds in tomb burials and structure caches are also reported but not yet published from Tikal, Peten, in Guatemala. They range from Tzakol 3 to Tepeu 2 in date (Mid and Late Classic). Occasional imitation stingray spines carved of bone have been found in Mid

and Table 1). Of the *nine* occurrences of shark teeth from archaeological sites, *six* were associated in caches or burials with stingray spines. These sites are: La Venta,[38] Mayapan,[39] Palenque,[40] Piedras Negras,[41] Nebaj,[42] and Sitio Conte, Coclé.[43] Although the dorsal spines of the stingray may have served as "spear and arrow points" for the natives in Costa Rica and Panama, as suggested by Lothrop,[44] among the Mayas they were used as sacrificial implements in ceremonial scarifications and bloodletting—to pierce the tongue, the nose, ears, and possibly mutilate the penis.[45] The association of shark teeth with stingray spines suggests that the unperforated shark teeth from the caches and burials at Las Flores, Cerro de las Mesas, La Venta, Mayapan, and Piedras Negras, as well as the fossil shark teeth from Palenque and Coclé may have been used for similar bloodletting and penitential purposes. After use in penitential rites, shark teeth, like stingray spines, were deposited in votive caches, offering vases, or in the tombs of deceased persons.

Aside from the possibility that stingray spines and shark teeth may have been traded together from the Atlantic and Pacific coastal areas to the interior, they may even have been caught together by accident. According to the observations of a shark fisherman,[46] sharks are frequently encountered with stingray barbs embedded in their jaws. [47] The Tiger or Leopard Shark and the Great White Shark are apparently quite adept at catching stingrays. According to Dorion he found in one instance as many as three stingray barbs, or dorsal spines, in the jaws of a Man-eater Shark.

The convenience of locating stingray spines in the jaws of sharks is that they are already cleaned of any poisonous or toxic substances—in contrast to fresh specimens which can inflict those who touch them or step on them with painful and poisonous wounds, sometimes even producing dangerous necrosis of the tis-

Classic burials and structure caches (Hattula Moholy-Nagy, personal correspondence, 1961). Another unpublished stingray spine is in the Vaillant collection in the American Museum of Natural History. It is from Chiconautla, Mexico, and probably dates from the Early Post-Classic or Toltec period (Gordon Ekholm, personal correspondence, 1961).

38 Drucker, Heizer, and Squier, 1959, p. 272.

39 Proskouriakoff and Temple, 1955, pp. 327-328.

40 Ruz, 1958, p. 79, and pl. 18.

41 Coe, 1959, pp. 65-66, fig. 63*b*.

42 In fill above Tomb 1, Mound 2, Smith and Kidder, 1951, p. 57.

43 Lothrop, 1937, Grave 5, fig. 32 *bottom*.

44 *Idem*, pp. 97-99.

45 For the association of stingray spines with the pelvic area of skeletal remains in burials, and for their distribution and ceremonial use, see Kidder, Jennings, and Shook, 1946, p. 156; Coe, 1959, pp. 64-66; also Landa in Tozzer, 1941, pp. 190-191, and fn. 1003.

46 Roberto Dorion of Guatemala City, personal communication, 1958.

47 See also Norman and Fraser, 1949, p. 43.

sue.[48] If the pre-Columbian inhabitants of Mexico, Yucatan, Panama, and Costa Rica were capable of capturing sharks for food, oil, shark teeth, or even accidentally while fishing for some other fish, they very likely plucked the cleaned and harmless stingray spines directly from the shark's jaws.

SUMMARY

1. Shark teeth and stingray spines were used in Central America as ceremonial or votive deposits in burials and caches beginning in the Late Pre-Classic period and continuing probably until the Spanish Conquest (from about 500 BC to 1520 AD).

2. Shark teeth offerings in burials and caches were frequently associated with stingray spines and other marine products, such as *Spondylus* shells, corals, sand dollars, etc.

3. Like stingray spines, shark teeth were probably used as weapons in Panama and Costa Rica, and as ceremonial and sacrificial bloodletting implements in the Maya and Mexican areas.

4. Shark and stingray fishing in pre-Columbian times must have been fairly common on both the Atlantic and Pacific shores of Mexico, Yucatan, Panama, and Costa Rica. Shark fishing was probably done in sea-going dugouts, with the use of bait, probably on hard wood or metal (gold) hooks. The sharks were very likely clubbed to death with heavy wooden mallets. Cub Sharks, Tiger or Leopard Sharks, and Great White Sharks were probably the most frequent catches.

5. Shark teeth, stingray spines, *Spondylus* shells, and other marine products were traded from the Atlantic and Pacific shores to such inland sites as Palenque, Piedras Negras, and Nebaj and at least a portion of the pre-Columbian stingray spine supply was probably retrieved from the jaws of dead sharks.[49]

6. Shark meat and shark liver probably formed a regular part of the diet of the inhabitants of the Atlantic coastal parts of Mexico and Yucatan. The shark liver was most likely boiled in big earthenware pots to extract the nutritious oil.

7. The consumption of shark meat and shark liver oil could have supplied the natives of pre-Columbian and nineteenth century Yucatan, Vera Cruz, and Campeche with a rich source of A, D, and B-complex vitamins. This, in turn, may have prevented, at least among the coastal population, such generally known present-day health problems as pellagra, rickets, low metabolism, and anemia.

48 For killing stingrays on the coast of Yucatan with bow and arrow and for the danger of being cut by their spines, see Landa in Tozzer, 1941, p. 191.

49 For distribution of *Spondylus* shell finds in pre-Columbian Mesoamerica see Boekelman, 1935.

TABLE 1

Distributional chart of shark teeth and stingray spine finds in ancient Mexico and Central America

	Shark teeth				*Stingray spines*			
Site	*Quan.*	*Shark Species*	*Nature of Find*	*Period*	*Quan.*	*Nature of Find*	*Period*	*References*
1. Las Flores, Tampico, Veracruz MEXICO	14	*Carcharinus*, sp.	As offerings in Burial #14. With shells, copper etc. (The burial is that of a small child enclosed between 2 large bowls.) Cat. #30.2-6852	Early Post Cl.	—	—	—	Ekholm, 1944, pp. 389-390, 486 and fig. 53c[1] Illustrated in this paper as Fig. 4
2. Cerro de las Mesas, Veracruz MEXICO	"S"	Unidentified	In Trench #34. With offerings in open tripod vessels (vessels are covered with bowls as lids)	Late Cl.	—	—	—	Drucker, 1943, pp. 12-13
3. La Venta, Veracruz MEXICO	1	Great White Shark (*Carcharodon carcharias*)	In basalt columnar tomb, Monument #7. Found in association with jade figurines, beads, clay earspools, obsidian ornaments, etc.	Late Pre-Cl.	6	Perforated specimens. In same tomb. Monument #7. Probably used as a necklace.	Late Pre-Cl.	Stirling and Stirling, 1942, pp. 641, 642, and pl. 1 opposite p. 648 Drucker, Heizer and Squier, 1959, p. 272 Drucker, 1952, pp. 26, 162,163,169,196
4. Mayapan, Yucatan MEXICO	2	Tiger shark (*Galeocerdo arcticus*)	As offerings (?) in a vessel. In a presumed residence of the nobility. Cat. #54-68. Lot A-95	Late Post-Cl.	—	—	—	Thompson, 1954, p. 75, and fig. 2*j* Pollock and Ray, 1957, pp. 651-652
"		—	—	—	1	In an undisturbed cache in Str. Q-151. With other offerings. In a red-ware pot. Lots C-85*a*, *b*, *c*	Late Post-Cl.	Shook and Irving, 1955, p. 152, fig. 2*e*, and p. 144, fig. 2*c*A Pollock and Ray, 1957, pp. 651-652

Note: "S" in the quantity column means *several*. The exact quantity is not given in the publication.

TABLE 1 (continued)

Distributional chart of shark teeth and stingray spine finds in ancient Mexico and Central America

	Shark teeth				*Stingray spines*			
Site	*Quan.*	*Shark Species*	*Nature of find*	*Period*	*Quan.*	*Nature of find*	*Period*	*References*
4. Mayapan, Yucatan MEXICO	1	Great White Shark (*Carcharodon carcharias*)	In a residential mound, Str. R-86*a*. With iguana bones. Cat. #55-81. Lot A-233	Late Post-Cl.	—	—	—	Proskouriakoff and Temple, 1955, pp. 312, 325, 339, 362*a*, and fig. 24*a*
"	1	Unidentified as to species.	As an offering. From Burial Cist #2 in Str. R-86, Lot A-191	Late Post-Cl.	1	In same cist, Burial Cist #2, in Str. R-86, Lot A-191	Late Post-Cl.	Proskouriakoff and Temple, 1955, pp. 327-328
	1	Tiger shark tooth	From Cache 3, Lot A-208	"				Pollock and Ray, 1957, p. 652
								Proskouriakoff and Temple, 1955, p. 328
"	"S"	Several vertebrae fragments. Misidentified as shark vertebrae	In a pit from a house mound. Str. K-52*a*. With shells, sherds, and pounding stones. Lot A-82	Late Post-Cl.	—	—	—	Smith and Ruppert, 1953, p. 195, fig. 8*e* Pollock, personal communication, 1960
"	—	—	—	—	"S"	Several spines in 7 different lots. From burials and caches	Late Post-Cl.	Pollock and Ray, 1957, p. 652
5. Palenque, Chiapas MEXICO	—	—	—	—	4	*Myliobatis*, sp. fossil. Offering No. 1. From Temple of the Cross. With shells and pearls	Late Cl.	Ruz, 1958, p. 79, figs. 4*h*, *hl*, and pl. 18*a*
"	1 7	Fossil shark tooth and 7 shark vertebrae (*Carcharodon megalodon*)	Offering No. 2. From Temple of the Cross	Late Cl.	1	*Myliobatis*, sp. fossil. Offering No. 2. From Temple of the Cross	Late Cl.	Ruz, 1958, p. 79, fig. 4*i*, and pl. 18, *b*, *c*, *d*

TABLE 1 (continued)

Distributional chart of shark teeth and stingray spine finds in ancient Mexico and Central America

	Shark teeth				*Stingray spines*			
Site	*Quan.*	*Shark Species*	*Nature of find*	*Period*	*Quan.*	*Nature of find*	*Period*	*References*
5. Palenque, Chiapas MEXICO	1	Fossil shark tooth. *(Carcharodon megalodon)*	As an offering. In a bowl covered with a vase. From Temple of the Foliated Cross	Late Cl.	—	—	—	Ruz, 1958, p. 88, figs. 11*d*, *d*[1], and pl. 23
"	1 1	Fossil shark tooth *(Carcharodon megalodon).* Cub shark tooth *(Carcharinus lamia)*	As an offering. In a stone box and vase. From Temple V. North Group. Offering No. III, in sanctuary	Late Cl.	—	—	—	Ruz, 1958, p. 247, fig. 13, and pl. 37, *b*, *c* Illustrated in this paper as Fig. 5, Plate 1
"	—	—	—	—	1	Fossil stingray spine. From Tomb III in Templo del Conde. (Badly corroded specimen)	Late Cl.	Ruz, 1958, p. 208, fig. 14*v*, and pl. 68*m*
6. Pomona BRITISH HONDURAS	—	—	—	—	9	From Tomb I. With shells, jade, pottery, etc.	Early Cl.	Kidder and Ekholm, 1951, pp. 128-129
7. Holmul, Peten "S" GUATEMALA		Mistakenly illustrated as shark teeth. They are jaw bones of Gray Fox *(Urocyon cinereoargenteus)*	Bldg. B, Group II, Room 2. Cat. #C-5618	—	"S"	With skeletons 1, 2, 5, 16. In Bldg. B, Group II. One barb (with skel. #5) has glyphic inscriptions. Many were near pelvic area	Proto-Cl. and Early Cl.	Merwin and Vaillant, 1932, pp. 31, 32, 37, 89 and 90; pl. 36*g* shark teeth; identified by Clayton Ray in 1960 as jawbones of the Gray Fox *ibid.*: pl. 34*d*, 36*e* and fig. 30*b* (stingray barbs)

TABLE 1 (continued)

Distributional chart of shark teeth and stingray spine finds in ancient Mexico and Central America

	Shark teeth				*Stingray spines*			
Site	*Quan.*	*Shark Species*	*Nature of find*	*Period*	*Quan.*	*Nature of find*	*Period*	*References*
8. Uaxactun, Peten GUATEMALA	—	—	—	—	19	In various burials and caches (frequently near the pelvic area)	Early Pre-Cl. Early Cl. and Late Cl.	Kidder, 1947, p. 59, fig. 75. R. E. Smith, 1937, figs. 8 and 14. Ricketson and Ricketson, 1937, pp. 205-206, and fig. 134*a*
9. Piedras Negras, Peten GUATEMALA	1	Great White Shark tooth *(Carcharodon charias)* (?)	From Cache O-13-37. Cat. #E-1-42	Late Cl.	—	—	—	Coe, 1959, p. 63, fig. 57*g*
"	1	Unidentified	From Burial #2. Near pelvic area, with stingray spine, shell disks, beads, ornaments and jadeite beads	Late Cl.	1	From Burial #2. Near pelvic area	Late Cl.	Coe, 1959, p. 63, fig. 63*b*, 3-4
"	1	Great White Shark tooth *(Carcharodon charias)*	From Cache in Str. #O-13. Guatemala National Museum Cat. #392-210G. Lot X-72	Late Cl.	—	—	—	Illustrated in this paper as Fig. 2
"	—	—	—	—	"S"	Most of them in burials and caches in Str. #O-13, *a*. Near pelvic area in Burial #5	Early Cl. and Late Cl.	Coe, 1959, pp. 64-67, fig. 55*c*, *f*, and fig. 56 (with hieroglyphic inscriptions)

TABLE 1 (continued)

Distributional chart of shark teeth and stingray spine finds in ancient Mexico and Central America

	Shark teeth				*Stingray spines*			
Site	*Quan.*	*Shark species*	*Nature of find*	*Period*	*Quan.*	*Nature of find*	*Period*	*References*
10. Nebaj, Quiché GUATEMALA	54	Cub Shark (*Carcharinus lamia*) teeth (perforated)	From Tomb I, in Mound 2. With *spondylus* shell spangles. Found behind head of male Skeleton "B." Headband decoration (?)	Early Cl.	2	From the fill above Tomb I, in Mound 2	Early Cl.	Smith and Kidder, 1951, pp. 54, 57, fig. 69*d* and fig. 42, no. 4
11. San Augustin Acasaguastlán, El Progreso GUATEMALA	—	—	—	—	4	In pottery offering-box, below Tomb I, in Str. 24. With lizard bones, obsidian, etc.	Late Cl.	Smith and Kidder, 1943, pp. 145, 170, and fig. 41*c*
12. Kaminaljuyu, Guatemala GUATEMALA	—	—	—	—	7	From Tomb II, in Mound E-III-3. Near pelvic area of Skeleton #1	Late Pre-Cl.	Shook and Kidder, 1952, p. 117, and fig. 15, no. 158
"		—	—	—	40	From Mounds A and B; 4 tombs. Several found near pelvic area of skeletons	Early Cl.	Kidder, Jennings and Shook, 1946, p. 156, and fig. 26, no. 66, fig. 27, no. 28, fig. 29, no. 50, and fig. 31
13. Copan, Copan HONDURAS	—	—	—	—	"S"	From Tomb II and in caches under Stelae M and I	Early Cl. and Late Cl.	Longyear, 1952, pp. 43, 51, 112, fig. 109*i*
14. Tazumal EL SALVADOR	—	—	—	—	"S"	From various burials	Cl.	Coe, 1959, p. 63

TABLE 1 (continued)

Distributional chart of shark teeth and stingray spine finds in ancient Mexico and Central America

Site	Shark teeth: Quan.	Shark teeth: Shark Species	Shark teeth: Nature of Find	Shark teeth: Period	Stingray spines: Quan.	Stingray spines: Nature of Find	Stingray spines: Period	References
15. Divala, Chiriqui, Province COSTA RICA	1	Great White Shark tooth (*Carcharodon carcharias*) (perforated tooth)	From a burial	Post-Cl.	—	—	—	MacCurdy, 1911, p. 43, fig. 51
16. Sitio Conte, Coclé PANAMA	3	Fossil shark teeth, (*Carcharodon megalodon*) (Teeth are painted red and black)	From Grave #26. In an association with an incense burner, stone concretions, stone ear rods, and stone celts	Post-Cl.	—	—	—	Lothrop, 1937, p. 197, fig. 190 and fig. 29
"	"S"	A mixture of teeth of the Cub Shark (*Carcharinus lamia*) and Tiger Shark (*Galeocerdo arcticus*)	From burials. Used as necklaces or bracelets	Post-Cl.	—	—	—	Lothrop, 1937, pp. 99, 156, fig. 132*a* Tiger Shark: fig. 129*b* Cub Shark: fig. 129*g*
"		A mixture of teeth of the Cub Shark (*Carcharinus lamia*) and Tiger Shark (*Galeocerdo arcticus*) (perforated teeth)	From burials (Grave #32, etc.). Mixed with stingray spines. Probably used as arrow-points or spike-heads	Post-Cl.	"S"	From burials (Grave #32, etc.). Mixed with shark teeth. Probably used as arrow-points or spike-heads	Post-Cl.	Lothrop, 1937, pp. 22, 97-99, figs. 32 to 35.

TABLE 2

Distributional chart of shark teeth and stingray spine representations in ancient Mexico and Central America

Site	Shark representations: Quan.	Shark representations: Type of representation	Shark representations: Period	Stingray spine representations: Quan.	Stingray spine representations: Type of representation	Stingray spine representations: Period	References
1. La Venta, Veracruz MEXICO	—	—	—	1	Perforated, stingray spine reproduction. Made of translucent green jade. In a necklace made from 6 actual stingray spines. Found in basalt columnar tomb, Monument #7.	Late Pre-Cl.	Stirling and Stirling, 1942, p. 641, and pl. 1 opposite p. 648 Drucker, 1952, pp. 162, 163, 169
2. Caleta de Ak, Quintana Roo MEXICO	1	Pottery shark figurine. From a trench in front of an altar platform	Late Post-Cl.	—	—	—	Sanders, 1955, p. 203
3. Chichen Itza Yucatan MEXICO	—	—	—	"S"	Stingray representations. On Chacmool murals along with other aquatic forms	Early Post-Cl.	Morris, Charlot, and Morris, 1931, p. 471, and pl. 139 and 159
4. Santa Rita BRITISH HONDURAS	"S"	Small pottery vessels and figurines, in the shape of sharks. From Mounds 2 and 6. With other animal figures, such as tigers, turtles, etc.	Post-Cl.	—	—	—	Tozzer and Allen, 1910, p. 307, pl. 6, fig. 9 Gann, 1897-1898, pl. 34, figs. 1, 3, 4, 7; pl. 35, fig. 2, and pp. 680-685
5. Seibal, Peten GUATEMALA	—	—	—	1	An enormous stingray barb (?) (or sawfish rostrum?), used as spearhead in right hand of bearded individual depicted on Stela #1		Maler, 1908, p. 14, pl. 3, fig. 1 Coe, 1959, p. 66

Note: "S" in the quantity column means *several*. The exact quantity is not given in the publication.

TABLE 2 (continued)

Distributional chart of shark teeth and stingray spine representations in ancient Mexico and Central America

Site	*Shark representations* Quan.	*Type of representation*	Period	*Stingray spine representations* Quan.	*Type of representation*	Period	References
6. Alta Gracia, Omotepe Island, Lake Nicaragua NICARAGUA	1	Shark-like monster. Represented as an effigy handle, on top of conical, incense-burner cover	Post-Cl.	—	—	—	Lothrop, 1926, pp. 252-253, and fig. 142
7. Sitio, Conte, Coclé PANAMA	2	Polychrome shark-effigy jars (spouted). From Grave #26	Post-Cl.	"S"	Polychrome and "smoked-ware" effigy and painted vessels. From various graves and caches (Graves 5 and 19; Cache #28)	Post-Cl.	Lothrop, 1942, pp. 113-115. Sharks: figs. 214*a*, *b*, 285*a*, and 485. Rays: figs. 97*b*, 213, 215 and 328.
	1	Black-and-white on red-ware cup. From Grave #58					
"	—	—	—	1	Imitation stingray spine. Carved of bone	Post-Cl.	Lothrop, 1937, p. 201, fig. 199
8. Southern Veraguas PANAMA	5	Gold pendants. In the form of shark-like fishes	Post-Cl.	—	—	—	Lothrop, 1950, pp. 66-67, figs. 103 and 104
9. "	1	Polychrome pottery bowl. Probably representing a Hammerhead Shark, from Parita	Post-Cl.	1	Polychrome pottery bowl, from Parita	Post-Cl.	Lothrop, 1942, p. 297, figs. 443, *a*, *b*
10. Colombia SOUTH AMERICA	6	Imitation shark teeth (perforated). Cast in solid gold. In the Museum of the American Indian, Heye Foundation	Post-Cl.	—	—	—	Lothrop, 1937, p. 156, fig. 133

8. The shark as a mythological monster may have played a more important role in Maya religious life than previously supposed. The monster animal associated with the day *Muluc* was the *xoc* (or *xooc*) which, according to the Vienna dictionary, was a species of shark. The same *xoc* also played an important role in the prophecies in the Chilam Balam of Tizimin,[50] and in the Maya glyphic and rebus writing and counting system.[51] There is even a possibility that the Mexican "Earth-monster," the *cipactli* (or "alligator-fish") was originally a shark.

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A FURTHER NOTE ON VILLAGE EXOGAMY IN NORTH INDIA

HAROLD A. GOULD

MORE than a year ago, I gathered some data which became the basis for my paper entitled *The Micro-demography of Marriages in a North Indian Area* which was published in this journal.[1] Since then, opportunities for further field work and further thought on the subject of "village exogamy," about which I make some comments in that paper, have made me realize that my position on the subject as then stated is insufficient to account for the differences between north and south India in this regard.

I stated at the time, "Unlike south India, north Indian villages maintain strict rules of 'village exogamy.' This condition appears to arise from three highly interrelated factors: (1) caste endogamy, (2) territorial stabilization of kin groups, and (3) *gotra* exogamy."[2]

It is now clear to me that the foregoing qualify as at most "necessary but not sufficient" factors in a causal explanation of the phenomenon of village exogamy. In the first place, the first two factors are equally prevalent in both the north and the south. The third factor, *gotra* exogamy, is common among the Brahmans of both regions but not common *as such* to other castes in either. In the north, however, where patrilineality is universal, the "idea of *gotra*," associated as it is with the paramount ritual status of the Brahmans (and where the Brahmans are not themselves regarded as an "alien" group, as to some extent they are in the south), influences the other castes in matters pertaining to exogamy. Other castes frequently use the term to designate their own exogamous units even though they may not be identical in structure to Brahman *gotras*. In this practice, we are perhaps viewing an example of what Srinivas calls Sanskritization.[3]

Regarding village exogamy in north India, an important point which I did not grasp until later was the full significance for my analysis of the fact that the predominant kinship systems of the north and south respectively differ greatly from each other and for this reason imply very different orientations to questions of consanguinity and affinity and the obligational ties arising therefrom. The north is characterized by rigid and consistent patrilineal descent and virilocal residence from the top to the bottom of the caste system. In the south, descent and post-marital residence are a mixture of patrilineal and matrilineal elements of

1 Gould, 1960.
2 *Idem*, p. 478.
3 Srinivas, 1956.

kinship structure with those beneath the Brahmans revealing a greater measure of the latter than the former. Says Gough:

> The kinship system of the lower castes . . . stresses matrilineal and affinal ties as strongly as patrilineal descent, and permits a high proportion of matrilocal and uxorilocal residence. . . . It contrasts with the depth of the patrilineage and the comparative weakness and narrow range of matrilineal and affinal ties among the Brahmans.[4]

Thus, to the factors I have adduced in my original article to explain village exogamy should be added the tendency to regard affinal and consanguineal kinship ties as mutually exclusive. The absence of village exogamy in south India is evidently associated with the lack of such a mutually exclusive attitude, and the kinship structure upon which such an attitude is founded. Matrilineal kinship systems purposefully fuse the obligational ties inherent in consanguineal and affinal forms of relationship, as in the case of the mother's brother who ultimately may become one's father-in-law. Patrilineal kinship systems by their very nature purposefully exclude such overlapping obligational ties. One logical culmination of the latter approach, perhaps especially in the light of the narrow band of families with whom equalitarian interactions are permissible in India due to caste, is to adopt practices which result in all members of the community with whom kin ties of any kind are possible being consanguines (actually, agnates) with the exception of wives. The rule enjoining village exogamy achieves this end. Affines and agnates are kept spatially separate with great consistency in this fashion. The latter are free to conduct their lives in comparative freedom from interference by the former on behalf of a daughter who is married into one's kinship group. Only a brother will customarily come to visit her when she is residing in her husband's household and even then he will meet his sibling in an outbuilding or some other place that is marked off spatially from the husband and his kinfolk. The wife ceremonially wails on her brother's shoulder when he comes, an act which announces the continuation of affective ties between a woman and her natal family, and I have observed the considerable strain that crosses the faces of the husband and his agnates upon such occasions. Property domains are clearly demarcated through village exogamy and it is probably no accident that the one member of a wife's family who visits her in her affinal household is the one who traditionally has never had any inheritance claims upon her. A brother, prior to

4 Gough, 1960, p. 46.

the recent Succession Act of 1956, dropped out of the picture as an heir to any property his sister might acquire once she became married.[5]

Conversely, a husband almost never goes to his wife's parental household and if he does he is reluctant to accept very much hospitality from them out of fear that an obligational tie will thereby be established. At marriages, the groom's party are provided separate accommodations when they come to the bride's village for the wedding ceremony and very little mixing occurs beyond what is strictly called for by the formal situation. The entry of the groom's party into the bride's village is a drawn-out process accompanied by a long halt for ceremonies at the village boundary, singing and playing by the retinue of professional entertainers, and prolonged formal greetings. Finally, after marriage, a woman is considered to have become a member of her husband's and ceased to be a member of her father's kin group.

Village exogamy, therefore, is consistent with the patrilineal kinship system characteristic of and universal among north Indians. By keeping affines structurally removed from the village, the capacity of the agnatic kinship group to manage its affairs and maintain its property free from interference by affines is tremendously enhanced. Daughters-in-law can be much more easily absorbed into their husbands' households. More or less it comes down to this: You accept the disability of losing your daughter almost completely after her marriage (and the villagers themselves speak of it as "losing" one's daughter) in exchange for the asset of having a free-hand, or virtually so, in the control of your wife and your daughter-in-law. In the south, you may intermarry with a family residing in the same community because, if matrilineal patterns are manifest, the kinship system does not pose the same kind of dilemmas. Where the brother-sister tie lies at the heart of the descent system, then affines and consanguines cannot be compartmentalized in a mutually exclusive manner. The essence of the latter is that a consanguine (sister's son) becomes one's heir after he has become one's affine (daughter's husband). Under such circumstances, a rule enjoining village exogamy makes little sense.

This is why to caste endogamy, territorial stablization of kin groups, and *gotra* exogamy we must add the desire to avoid the conflicting claims of affinal and consanguineal kinship ties in a patrilineal kinship system if village exogamy in north India is to be adequately accounted for. Its absence in south India may be attributed to the fact that patrilineality is not universally prevalent but is compromised by the widespread existence of matrilineal kinship patterns.

5 I am indebted to Shri O.P. Trivedi, Civil and Sessions Judge, Kanpur, for a conversation which led to the realization of this point.

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